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CLINICAL MEDICINE

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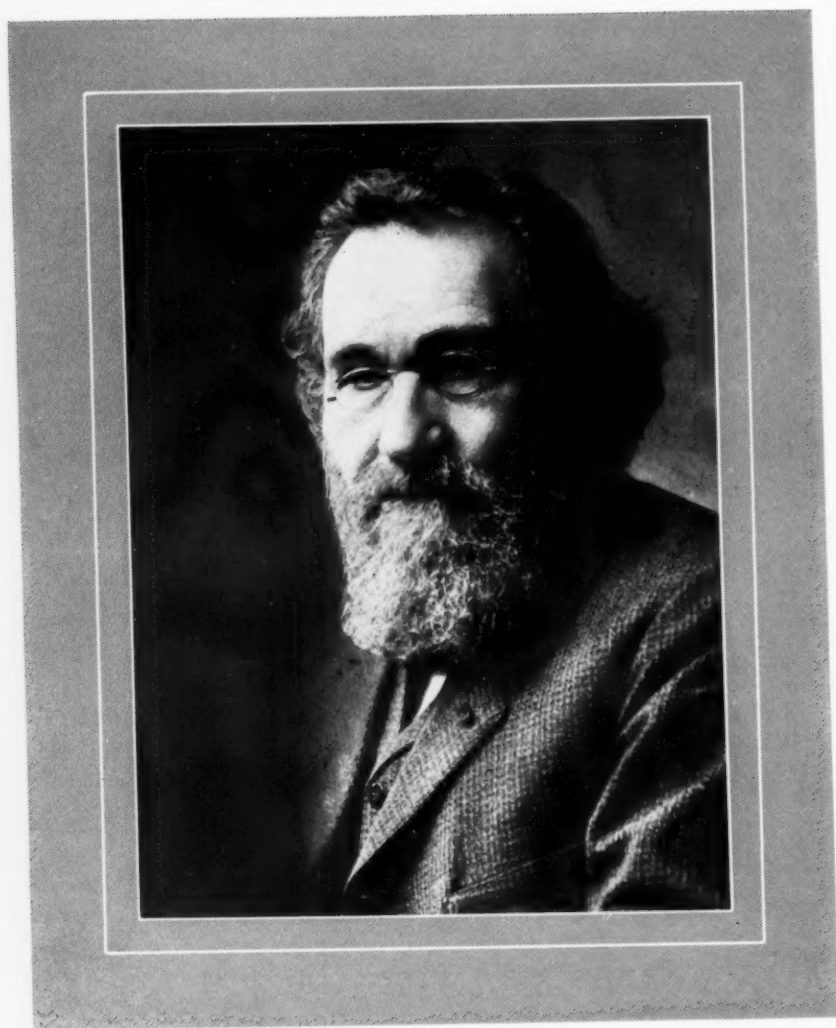
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DR. ELIE METCHNIKOFF

Clinical Medicine

A Monthly Postgraduate Course

Vol. 32, No. 5

May, 1925

Professor Elias Metchnikoff

ILYA MECHNIKOV (better known as Elias, or Elie, Metchnikoff), the great Russian biologist and bacteriologist, was born in the province of Kharkov, May 15, 1845. His father was an officer of the Imperial Guard and his mother was a Jewess.

At the age of 17, he entered the Kharkov University and two years later went to Germany for further biological training. In 1867 he returned to Russia and took his degree in zoology both at Odessa and Petrograd, becoming professor of zoology and comparative anatomy at Odessa.

In 1882, he went to Messina, Italy, where he began his studies into the nature and habits of microbes. Henceforth he devoted himself to pathological and bacteriological studies and, in 1888, became associated with Pasteur in Paris, who encouraged him and gave him a laboratory in the École Normale where his work might be carried on to the best advantage.

By 1892 his views on the essential importance of phagocytosis were firmly established and are still generally accepted. In that year he published "The Comparative Pathology of Inflammation," followed, in 1901, by his chief work, "Immunity in Infectious Diseases," and a more popular treatise, "The Nature of Man" (1903).

In later years he made a special study of the bacteria infesting the alimentary canal of man, and, becoming convinced that the lactic-acid-producing organisms combatted those of putrefaction, he recommended a diet of sour milk in order to promote health and prolong life.

He was an Hon. Doctor of Science of Cambridge and Copley medallist of the Royal Society, a member of the Institute of France and of the Academy of Sciences of Petrograd, and in 1908 was awarded the Nobel prize for the benefits his researches had conferred upon humanity. He died in Paris, July 16, 1916.

He is most generally known in connection with his investigations and recommendations in connection with the intestinal flora and his introduction to the Western World of koumiss, yoghurt and other fermented milk drinks, upon which our present use of bacillus bulgaricus and bacillus acidophilus are based.

It should not be forgotten that it was Metchnikoff and Roux who first succeeded (in 1904) in inoculating the higher apes with syphilis.

To many, it has seemed strange that the man whose studies seemed to have opened possibilities for great prolongation of human life should have died at the comparatively early age of 71.

SPRING CLEANING

This is the season when all honest-to-goodness, dyed-in-the-wool housewives pin a towel around their heads, tie a big apron around their waists, take the rugs up and the curtains down and deport themselves, in general, like the buxom Hollandish lady who chases dirt all over the cans of scouring powder.

There is an esoteric symbolism in this fever of strenuous cleanliness which seems to arise with the stirring of the sap. As this is not an essay on metaphysics, we won't go into that now, but all of you can think it out for yourselves, if you'll try.

The practical point of the matter is that, if a thorough spring cleaning is good for the inside of houses (and who can doubt it?) it ought to be good for the outside of the houses, as well, and also for alleys, barnyards, vacant lots and, in fact, for the whole of every community.

The housewives will look after the individual homes, but we doctors, who best know the inwardness of the horrors of dirt of all kinds, may have to act as housewives to our towns.

A good many cities and villages have started the valuable custom of having a "clean-up week" about this time of year. If your town is doing this, get behind the movement with all the force of your example and your influence. Clean up your house and yard and alleys and your office and then preach it to all your neighbors.

If such a campaign has not been started in your community, *start it!*

Talk to the children in the schools, the ladies of the woman's club or the aid society, or any other group of people you can persuade to listen to you, and tell them how mosquitoes breed in old tin cans and harbor in patches of high weeds; how flies breed in manure piles, open privies and all collections of filth.

Tell them of the dangers from mosquitoes and of the obscene and nauseating habits of flies and what these habits lead to in the way of human suffering and death.

There is another side to this, too. The clean man is a self-respecting man; the clean house harbors a self-respecting family; the clean town thinks well of itself and has a proper civic pride. There is a closer connection than may at first appear between physical slovenliness and moral turpitude—between dirt and crime.

Be the teacher of your city in matters of hygiene and sanitation, and be its conscience as well, along these lines, if necessary. It will pay you in self-respect as having *done* your duty; and in the confidence and admiration of your friends (which means, to speak plainly, dollars and cents) as having both *seen* and *done* your duty in a spirit of true altruism, for the doctor who teaches hygiene to his neighbors is directly diminishing his chances for financial returns.

Every community in this land ought to be so clean before June first as to discourage a fly, and it is "up to" the doctors to see it done.

Public health is purchasable. Within natural limitations, a community can determine its own death rate.
—New York State Department of Health.

THE A. M. A. MEETING

The annual meeting of the American Medical Association will be held this year at Atlantic City, N. J., May 25 to 29.

The railroads are giving concessions (a fare and a half for the round trip) and hotel accommodations will be ample.

Better begin now to make your plans for attending this meeting. Many important papers will be read, but that will not be the greatest value you will get out of it.

Physicians have a tendency to stick so close to their jobs that they have no chance to see things in proper perspective. You owe it to your patients to get out and get some new ideas; to your family to give them a little rest from your presence (they'll deny the necessity, of course, but try it and see how popular you will be at home when you come back); and to yourself to go, occasionally, where contact with your professional brethren from all over the country will rub some of the barnacles and seaweed off your intellectual processes.

In your talks with doctors from many communities whom you will meet there, you will learn how many different things are done by many different men, and get many new ideas, some of which are sure to prove valuable.

At the scientific exhibits, you will become familiar with the most modern methods and devices for treating the sick.

Those of you who served in the Army during the war will find an added incentive in the reunion of all former Medical Officers, which will be held at the Ritz Carlton

Hotel at 7 p. m., on Wednesday, May 27th. The Surgeon-Generals of the Army and Navy and the president of the A. M. A. will be among the speakers. Here you will meet all your old "buddies" and can have the joy of fighting all the battles over again—at the dinner table.

If this feature attracts you as much as it does us, write to Col. P. J. H. Farrell, 25 E. Washington St., Chicago, and he will tell you all about it.

Above all, you will rest that part of you which has been on constant duty in the consulting-room and at the bedside for the past year or more and will renew your enthusiasm, without which the joy of life and any high success in your chosen work are impossible.

Wisdom provides things necessary, not superfluous.
—Solon.

CANUTE REDEVIVUS

Sometime in the tenth century there lived, so the books say, a Danish King who also governed England. His name was Canute.

This monarch grew so accustomed to having his slightest wish fulfilled and his lightest order obeyed, as though it were a law of nature, that he became afflicted with ideas of grandeur and, one day, in order to demonstrate the scope of his power, he went down to the beach with his courtiers when the tide was coming in and ordered the sea to stop its onward progress and stand still.

It is not recorded that this order produced any perceptible effect on the incoming tide.

The spirit of King Canute lives again in the persons of the legislature and the Governor of the State of Tennessee, where a law has recently been passed by a heavy vote of both houses of the assembly, and signed by the Governor, on March 23rd, forbidding the teaching in any public or normal school or university in that state of the law of evolution.

The reason given for this remarkable action is that the pronouncements of Darwin and Huxley conflict with certain statements made in the Bible (or, at least, with the interpretation placed upon such statements by the enlightened lawmakers of Tennessee), and hence must be mistaken and pernicious.

In the first place, although some of the details of Darwin's ideas have been proved to be in error by the later work of Weiss-

mann and others, the fundamental principles which he enunciated have been so fully confirmed by all scientific investigators that no unprejudiced and thoughtful person to-day questions the soundness of his theses.

In the second place, if one is fond of Biblical controversy, who is to say just what is meant by the statement, "And God made man in His own image"? Is there any more reason to think that this "making" was done in the way that Mr. Ford makes an automobile—at one fell swoop—than there is for believing that it was done as Mr. Burbank makes a new variety of apples or cactus or roses—by a process of gradual and repeated trial and selection?

It seems quite probable that this action by our southern neighbor was more or less influenced by one of our prominent American lecturers and (recently) real-estate propagandists, whose violent refusal to admit the existence of any anthropoids in his family tree leaves room for the suspicion that some of his remote forebears may have had ears much more prominent than those possessed by any ape.

Although this matter possesses the same sort of interest as is furnished by Mr. Voliva's insistence that, in Zion City, at least, the world shall be flat, it is extremely improbable that it will have any noticeable effect in stemming the progress of scientific thought and public enlightenment.

King Canute is dead and, though his spirit still seems to be marching on, there are no available statistics to show that any of his successors have achieved any greater results in turning back the tide than was produced by the orders of this bold but self-deluded Scandinavian monarch.

Be not angry that you cannot make others as you wish them to be, as you cannot make yourself as you wish to be.—Dr. Johnson.

THE TORNADO

The appalling disaster which befell southern Illinois and Indiana and some neighboring territory on March 18th has again brought home and emphasized the truth of our remarks on the innate soundness and big-heartedness of the people of the United States, which appeared in this department last month.

Human beings like ourselves were suffering and in danger, and our response was, as it always is in such conditions, instant, generous and nationwide.

Another interesting feature emerges here. We were not only willing but *ready* to respond, and to respond intelligently and purposefully.

On May 3, 1889, there was a flood at Johnstown, Pa., where over 2,000 lives were lost. It took weeks and weeks after that disaster before things were organized and the living sufferers were ready to take up their lives again.

This time the whole country knew what had happened, by radio, almost before the storm-wind had died down, and by the next morning relief trains were pouring into the stricken regions with trained helpers and needed materials.

Our system of preventive medicine obviated the outbreak of epidemic disease. Supplies of tetanus antitoxin prevented the development of that terrible infection. We knew what to do, and were ready to do it.

The Red Cross had a working organization prepared to respond to such calls. The National Guard took up their police and protective duties in a prompt and soldierly manner. Within a week, order had emerged from chaos.

We felt that our readers should know some of the details of how this tremendous problem was handled, so the writer visited the stricken city of Murphysboro and an account of what he saw and heard there will be found on page 298 of this issue.

The war has taught us some things, apparently. Our physicians and nurses are now men and women of action. Let us see to it that the lessons learned at such terrible expense are not lost through inactivity and fatty degeneration of our sense of public and national responsibility.

Forget the hours of distress, but never forget what they taught thee.—Geassier.

AMERICAN DRUGS

We are all familiar with the fact that, before the war, many of our most useful drugs were made or controlled in Germany.

During the war, when enemy property was taken over by the Government, all the German patents on drugs, chemicals and dyes were seized and these were later sold to the Chemical Foundation, so that they would be available for the use of American pharmaceutical and commercial chemists.

For some time, a suit has been in progress to determine the validity of this sale, the Government claiming that there were some irregularities and demanding the return of

the 6000 German patents involved. The *New York Times*, of March 27, 1925, announces that the Federal Circuit Court of Appeals dismissed this suit on the previous day.

This decision is of great importance to all manufacturing pharmacists and, through them, to all practicing physicians.

Most of us can remember the disastrous results which followed the outbreak of war, due to the fact that many of our essential drugs were made abroad, when Salvarsan, for instance, was practically unobtainable, even at \$12 or \$15 a dose.

It gives us a wonderfully comfortable feeling of security to know that the remedies we require for daily use in our warfare with disease are now being produced, of high quality and at reasonable prices, in our own country, and none of us would be willing to return to the pre-war arrangement. That is why we are all interested and pleased to learn that this matter has been decided in a way which will redound to the advantage of physicians, drug manufacturers and American industry in general.

No moral victory is ever easy or ever accidental.
—Dawes.

THE TRAINING CAMPS

The time has come to begin making plans for the summer training period.

Many of our readers hold commissions in the Medical Reserve Corps, and all of them who are over twenty-one and under fifty and are able to pass the required examinations ought to hold them.

Under our present military policy our only salvation, if war should be again thrust upon us, would be in an organized and trained body of reserves, and every able-bodied and intelligent man who desires to perform his full duty as a citizen should plan to be part of that body.

Organization is, of course, necessary but training is even more so. The elevator man in a hospital, even though he had the keenest desire to be helpful and the best intentions in the world, and was a highly efficient elevator man, could scarcely take the place of the operating surgeon.

It goes without saying that you are all good doctors, and it is no reflection upon your skill and ability to suggest that that is no reason why you should feel that you are also good soldiers. The military profession is a science and an art in the study of

which many men spend their whole lives; and the medical officer must know something of the military as well as the medical profession.

Arrange your affairs, get out your field-kit, and prepare to spend a delightful and profitable two-weeks' (or longer) vacation at the training camp this summer.

But, that isn't all. Many of us have sons who are coming into manhood. Every generation has needed discipline, and some feel that the one which is now rising needs it more than any of the previous ones.

The R.O.T.C. and C.M.T.C. Camps offer three excellent things, any one of which would make them worth while. These desirable offerings are: a vacation in the open air, with manly sports and exercises under the supervision of trained directors and instructors and without any expense to the participant; training and instruction in the value and necessity of discipline in all the affairs of life, by men who have made it the study of a lifetime; an opportunity to prepare oneself to play a man's part, with skill and intelligence, in the defense of our Country if that should ever become necessary.

The boys who are attending colleges where Reserve Officers Training Units are established will have all details arranged for them, if they belong to the Unit. If they do not belong, they should.

The Citizens Training Camps offer a wonderful opportunity to boys and young men to receive a physical examination and medical advice which would be hard to obtain elsewhere; instruction which will be of value throughout their lives; and a delightful and health-giving outing free of cost.

Let us all plan to do our part, in person; to give our boys the privilege of this training; and to do our best to see that every family in our communities is informed of the benefits which will accrue from their wholehearted and intelligent support of this valuable and necessary phase of our national activities.

He who is wedded to tradition has turned his mind against progress.—A. B. Jamison.

HAY FEVER

There are two abnormal physical conditions (one hesitates to call them diseases) from which men suffer (and here "man" embraces woman) and whose mortality is nil, but which are extremely distressing

while they last. These are seasickness and hay fever.

Most of our patients are not intending to take an ocean voyage this summer, so the former of these does not interest us so much; but a good many of them are going to have hay fever unless we take measures to prevent it.

NOW is the time for us to be up and doing if we are going to give these folks who are going to be very miserable next August and September the measure of relief for which they have the right to look to us.

Go back over your file of CLINICAL MEDICINE and reread the articles on Asthma, by Haseltine and La Forge, because a good deal of this applies to hay fever, too. Then proceed to detoxicate these patients, and keep them detoxicated. ("Clean out, clean up and keep clean.")

Find out if they have any intranasal pathology and, if they have, correct it or have the work done by a competent rhinologist.

There is much merit, also, in the protein desensitization treatment. Test your patients with the most likely pollens, (timothy for the spring cases and short ragweed for the fall cases) and start *now* to immunize them against the pollen to which they react most strongly.

You may not cure any of these patients, but the writer knows, by personal and considerable clinical experience, that it is entirely possible to change those two summer months of misery and inefficiency into months of reasonable comfort and effective work for many of our patients, if we are willing to put forth the necessary study and effort.

Do not sneeze unto others, inasmuch as you would not have others sneeze unto you.—Dr. H. N. Bundesen.

MAGNESIUM SULPHATE

From time to time there have arisen more or less animated discussions as to which is our most useful drug. Mercury and iodine, in their various combinations, have been frequently mentioned in this connection, as well as several others. It now begins to look as though there was a new contender for first honors.

Since the mind of man runneth not to the contrary, magnesium sulphate has been recognized as a promptly acting and reliable saline purgative, and, until rather recently,

this was almost the sole use made of this interesting salt.

Someone discovered that "salts" formed, with the phenols, a harmless soluble compound—a sulphocarbolate—and since that time the drug has been used to a considerable extent in the treatment of poisoning by carbolic acid and other phenols, being used *per orem* and by hypodermoclysis.

No very great time before the war it began to be recognized that the hygroscopic properties of Epsom salt could be used for other purposes than the production of hydragog catharsis. If it would draw fluids through the wall of the bowel by osmosis, why would it not draw them through the skin?

Accordingly, it began to come into favor as a surgical dressing for bruises, sprains and painful swellings of various sorts, being sometimes combined with glycerin for this purpose. It worked. On page 57 of the January issue of this journal will be found a description of one of its specific uses in surgery.

It now appears that, up to the present, we have only scratched the surface of the field of usefulness of this remarkable drug. It seems to be a local and regional anesthetic of surprising power. On p. 342 of this number will be found an abstract of an article detailing its use in the treatment of tetanus, and on page 178 of the February number of the *A. J. of Obst. & Gynecol* it is recommended for the relief of puerperal eclampsia.

This latter article is by E. M. Lazard, M.D., F.A.C.S., of Los Angeles, Calif., senior

attending obstetrician of the Los Angeles General Hospital.

The seventeen cases of ante-, intra- and post-partum eclampsia were all in a desperate condition before the treatment was given, being in convulsions or coma before it was started, and the fact that but one maternal death is recorded under such conditions speaks loudly for the value of the method.

In the technic the usual methods of dealing with acute toxemias, such as gastric lavage, phlebotomy, colonic flushings, glucose and soda, etc., were not overlooked, but, in addition to these, the patients received intravenous injections of 20 Cc. of a 10-percent solution of C. P. magnesium sulphate as soon after the first convulsion as possible. This was followed, in 6 to 10 hours, by a further injection of 10 to 20 Cc. of the same solution, if circumstances seemed to require it.

In every one of these cases the convulsions were controlled and in none of them were any deleterious effects observed.

This method offers so much hope in the handling of one of the most disastrous complications of pregnancy, and the article handles the subject in such a satisfactory manner, that every man who is doing any obstetrical work should send to Dr. Lazard, whose address is 501 Westlake Professional Bldg., for a reprint.

Thus we seem to have a new and rather remarkable chapter added to that fascinating volume on "New Uses of Old Drugs" which this twentieth century is rapidly writing.

Mothers' Day—May 10th

YOU never will have more than one mother. If you still have her, make her rejoice by sending her a token of your affection on Mothers' Day, for she is the one person in the world to whom you are the perfect masterpiece of God's handiwork.

Leading Articles

Use of Anilin Dyes in Infections*

By ELNORA C. FOLKMAR, M.D., M.Ph., D.Soc.Sci., Washington, D. C.

Editor, *Journal of the American Association for Medico-Physical Research*, Washington, D. C.

THE ideal method of combatting focal and general septicemia has not been developed. Sanitation, personal hygiene, dietetics, immunization, phototherapy and other methods of prevention of contact with and susceptibility to infection are important.

But given a case of corneal ulcer, of osteomyelitis, of puerperal sepsis, of diphtheria, of furunculosis, of general septicemia due to the streptococcus hemolyticus or to the colon bacillus or of arthritis due to the gonococcus, how are we going to proceed? Will the use of antiseptics be of any avail as aids in the treatment of these conditions? Note we say aids, for it must be understood that diet, elimination and other hygienic measures are very important considerations in the treatment of any form of septicemia.

An ideal antiseptic is one that is readily diffusible in the blood, in the tissues and throughout a colony of bacteria; one that is nonirritant to tissues and nontoxic to man, but is inhibitive to the growth of pathogenic bacteria. Its use intravenously should increase rather than lower the normal resistance of tissues to the toxic effects of the presence of the products of bacterial metabolism. The ideal antiseptic must be inexpensive, readily obtainable and simple in its administration or application.

Early Investigators

The search for this ideal antiseptic was begun soon after the announcement of the bacterial origin of infectious diseases. Some forty years ago Ehrlich noted that anilin dyes inhibited the growth of bacteria. He thought that a dye which would stain an organism would kill it. He introduced methylene-blue as a remedy in the treatment of quartan malaria. Having noted the affinity of this dye for the axis-cylinder of the nerve, he recommended its use as a sedative and as an analgesic. His researches included the acridin dyes, one of which he named trypanflavine because of its efficacy in the treatment of trypanosome infection.

During the next ten years many investigators of Continental Europe conducted laboratory and clinical researches on the use of dyes as antiseptics. Chief among the German investigators were Bechk, Mueller, Penzoldt, Spina and Stilling. Among the French investigators of this period were Babes, Cornil, Christmas, Egasse, Fano, Morau and Nogues. At least two Italians, Bergonzina and Myna, two Scandinavians, Blomberg and Jansen, and one Russian added contributions, especially on the use of methylene-blue. During this period two Americans contributed case reports, Tiffany and Whittaker.

Most of the work of these early investigators was centered on the study of methylene-blue or of methyl-violet. Methylene-blue was used in the treatment of neuralgia and cystitis. Bourdillon used it in the treatment of malaria. He gave from 3 to 5 pills daily, each containing 10 centigrams of the dye. The fever disappeared and the general condition of the patients improved. Methylene-blue was recommended for the treatment of chronic malaria and for patients that cannot take quinine.

Methyl-violet

Stilling, a German ophthalmologist, was the first to conduct a logical chain of research—laboratory tests, animal experimentation and actual clinical use—on the toxicology, the bacteriostatic powers and the therapeutic use of methyl-violet. The methods, the laboratory and animal experiments and the therapeutic applications of Stilling have been repeated and verified by American investigators within recent years when making a study of gentian-violet.

Stilling observed that mould would not grow on bread soaked in a solution of methyl-violet; that a paste made of wheat meal and a solution of 2 to 1,000 of methyl-violet would not sour; that milk colored with methyl-violet would not sour. To determine the inhibitive action of methyl-violet on putrefactive bacteria, he placed small pieces of meat in flasks. To one flask

*Read before the Section on Internal Medicine, Medical Society of the District of Columbia. March 27, 1926.

he added pure water, to the other flasks various strengths of a solution of methyl-violet from 1 to 64,000 to 1 to 10,000. After six days there were no signs of putrefaction in the flasks containing the stronger solutions. The control flask was stinking within 24 hours, and the flasks containing weak solutions, 1 to 64,000 to 1 to 40,000, began to show signs of putrefaction after 24 hours. These experiments seemed to demonstrate that methyl-violet acts as a check on the growth of the bacteria of fermentation and putrefaction.

Stilling next conducted a number of experiments on animals to determine the toxic properties of methyl-violet and to determine whether it had bacteriostatic action on the staphylococcus pyogenes aureus. Being an ophthalmologist he sought an antiseptic for the cure of such infections as corneal ulcer and conjunctivitis. He was so successful in the treatment of these conditions in rabbits that he introduced the use of methyl-violet into his clinic. To test the toxicity of the drug he fed large quantities of the dye to rabbits and he buried from 1 to 3 Grams of the pure substance under the skin. The wounds healed without inflammation. In no case did he observe any toxic symptoms. Nor did he ever observe any toxic symptoms in the hundreds of patients, clinic and private, treated by him with methyl-violet.

So successful was Stilling in the use of methyl-violet in the treatment of corneal ulcer that he predicted that its use would supercede the galvanic cautery in the treatment of these cases. He considered it almost a specific in the treatment of blepharitis and conjunctivitis. Blepharitis was cured in a few days by the application of a 2-percent ointment, or of a pencil, of the dye to the roots of the hairs. Some of the worst forms of conjunctivitis were cured in 24 to 48 hours by using drops of a 1 to 1,000 solution. The writer has cured one case of blepharitis with two applications of gentian-violet and finds that simple conjunctivitis yields much more readily to the application of gentian-violet than it does to argyrol.

The various preparations of methyl-violet used by Stilling are listed here as suggestions for the making up of preparations of gentian-violet or of acriflavine.

1.—Pure substance—used as a powder for dressing large wounds.

2.—Large pencils for painting small wounds and burns.

3.—Small pencils for application to the eye in the treatment of corneal ulcer and to the lids in the treatment of blepharitis.

4.—Powders, 1 to 1,000 for mild cases of conjunctivitis. Also used as a snuff for affections of the nasal mucous membrane.

5.—Ointments; strengths varying from 2 percent to 10 percent.

6.—Solutions from 1 to 1,000 to 1 percent. Solutions should be filtered, kept in dark glass bottles and made fresh every 8 days.

7.—The substance used should be absolutely pure.

Like many another discovery, the value of anilin dyes as antiseptics was lost sight of for a period of nearly a score of years. Very few references are to be found in the periodical literature between the years 1895 and 1915.

The Renaissance of Anilin Dyes as Antiseptics

The revival of interest in dyes as antiseptics was inspired by the researches of Churchman in America and of Browning in England. The former began an extensive laboratory study of gentian-violet in 1912 and the latter, about a year later, a study of the flavine dyes.

Gentian-violet a Bacteriostat

Churchman reached some very definite conclusions after conducting extensive laboratory experiments with the growth of some four hundred strains of bacteria on both stained and unstained media—agar or broth. He found that Gram-positive bacteria, with very few exceptions, were inhibited in their growth whether acted upon directly by the dye or planted in stained media; that Gram-negative bacteria were in no way influenced in their growth by the action of the dye. The dye seemed to be more effective when applied to the media than when applied directly to the bacteria. Colonies planted 8 to 10 millimeters from the stained half of a petrie dish of agar were often deeply stained, though the intervening agar showed no sign of the dye to the naked eye. These experiments demonstrated conclusively the bacteriostatic action of gentian-violet, that is, its power to suspend reproduction in Gram-positive organisms whether applied directly to them or incorporated in the media in which they were planted.

Churchman's next step was to determine whether gentian-violet had bactericidal power. He inoculated guinea pigs with a strain of blastomyces stained with gentian-violet. For the control animal, unstained

bacteria were used. The control animal died in 20 days and the organism was found in the heart's blood. The animals which were inoculated with stained organisms were alive and well four months later. Similar experiments were performed on rabbits with the staphylococcus aureus. The control rabbit died within 24 hours, while those inoculated with stained organisms were, with one exception, alive and well after three months. The experiments showed that the dye was efficient even when enormous doses of the stained cocci were given. They further demonstrated that spores do not develop from Gram-positive bacteria under the influence of gentian-violet. The bacteria never grew on a media stained with a dilution of 1 to 100,000. He noted in his experiments on animals that living tissue cells penetrated by the stain of gentian-violet were not damaged.

Toxicology of Gentian-violet

A few years later, Mooser and Monroe of the American Hospital of the City of Mexico repeated many of the experiments of Stilling and Churchman. To determine the toxicity of the dye, they administered doses up to 5 mg. per kilogram of body weight with no toxic effects. And within the last year Pindar of the University of Cincinnati College of Medicine made a number of experiments to determine the pharmacology of gentian-violet. The experiments were conducted on dogs. No marked toxic reaction was noted even when double unit doses were given and repeated three times within a period of 72 hours. There was a marked rise in the leucocyte count which began to diminish after 24 hours but remained about normal for at least 72 hours. There was a rise in blood pressure not unlike that obtained from the administration of adrenalin. Both the kidney and the spleen were diminished in volume.

Clinical Use of Gentian-violet

Churchman began the use of gentian-violet in surgery as early as 1913. A few years later he reported in the *Journal A. M. A.*, the successful treatment of purulent arthritis by aspiration and injection of a solution of gentian-violet. At Walter Reed Hospital wounds infected with diphtheria bacilli were reported to have been cleaned up with a dressing of gentian-violet.

Mooser and Monroe used gentian-violet intravenously in the treatment of desperate cases of general septicemia. Marvelous

results were obtained in cases of wound infections, otitis media, and puerperal sepsis when the infecting organism was a staphylococcus or a streptococcus. The treatment was a failure in sepsis due to the presence of the colon bacillus.

Davis and Majors demonstrated that gentian-violet is an effective remedy in the treatment of empyema. Young, of Johns Hopkins, reports the saving of a very desperate case of osteomyelitis by the intravenous administration of gentian-violet. Saurman has cleared up the throats of diphtheria carriers with a spray of a weak solution of gentian-violet in the treatment of some cases of ulcerative enterocolitis. The writer has successfully used gentian-violet intravenously in the treatment of three cases of septicemia:

1.—Streptococcus infection of bladder and kidney. Miss A. Urine filled with pus. Temperature daily about 101° F. Ill for months. Excruciating pain on urination. Much emaciated. Weight 87 pounds. Diagnosis made from urine culture. Treatment: Diet rich in acid fruits and leafy vegetables, phototherapy, intravenous injections of gentian-violet—seven doses were given during a period of six weeks. Repeated cultures from urine showed less and less staphylococci and those present were of slower and slower growing character. Pain ceased. Urine became clear. Patient gained 19 pounds in weight, able to return to work. Now, after 5 months, reports she is feeling fine.

2.—Mrs. B. Staphylococcus infection. Uterine and vaginal discharge, accompanied by a slight daily temperature between 99° and 100° F. Poor heart action and feeling of exhaustion. Three injections of 10 Cc. of one-percent solution of gentian-violet cleaned up the case.

3.—A boy of 7. Grippe with middle-ear infection nearly a year ago. Never got well and strong. Ran a daily temperature of 99.5° to 101° F. No appetite, no energy, no area of tenderness, no pain. There was a history of bloody urine at the time of the attack of grippe. Urine culture showed streptococcus hemolyticus. One injection of 10 Cc. of gentian-violet was given. One week later culture from both blood and urine were negative, and temperature gradually came down to normal. Calcium hydrosol with iodine was administered orally and ultra-violet light radiations were given.

The writer finds gentian-violet a valuable antiseptic for local application in the treatment of: foci of infection that can be drained; a number of eye, nose and throat inflammations; acne and furunculosis; and some cases of vaginitis and mucous colitis.

Dosage of Gentian-violet

Gentian-violet may be used as pure substance for dusting large wounds, for oral

administration in capsules or keratin-coated pills, and for pencils for the treatment of small ulcerated areas such as corneal ulcers, and the hair follicles of the eyelids. For oral administration, Bassler used keratin-coated pills containing 0.016 Gram of the dye to be taken after meals. Davis and Majors use a solution of 1:2,500 to 1:1,000 for injection into the pleural cavity after aspiration of the fluid exudate. One-half as much of the solution is injected as there is fluid withdrawn. Mooser and Monroe use 10 Cc. intravenously of a 1-percent solution. The dose is repeated one or more times when necessary. Young uses .25 to 1 percent solution, depending on the age of the patient, and gives one massive dose, in the case of adults, 5 mg. to the kilogram of body weight. The writer uses the smaller repeated dose of Mooser. In the case of staphylococcus infection of the kidney above referred to, from two to four grains were given at a dose in a 1-percent solution.

To prepare the dye for intravenous use, it is dissolved in sterile distilled water filtered and sterilized in a water bath for 10 minutes.

When a massive dose is given, the skin may assume a blue color not unlike that of cyanosis, but this soon passes off. A solution of 1 to 1,000 may be used as a local application for mucous membranes. For dry wound dressings a powder of 1 to 1,000 is recommended.

Indications for Gentian-violet

Gentian-violet may be used in cases of either general or local sepsis when the offending organism is Gram-positive. It is to be thought of in the treatment of diphtheria, sinusitis, otitis media, empyema, sepsis from wounds, puerperal sepsis, osteomyelitis, cholecystitis and furunculosis. If in doubt about the nature of the offending organism, cultures should be made from the exudates, discharges, urine and blood.

The selective action of gentian-violet is bacteriostatic rather than bactericidal. It has little or no selective action against the proliferation of Gram-negative organisms. The gonococci and the colon bacillus are highly resistant to gentian-violet.

Acridflavine

Acridflavine, one of the acridin dyes, introduced in France under the name of "gonocrine" has gained much more rapid recognition as an antiseptic than gentian-violet because of the fact that it was used in the army hospitals during the recent

World War as an antiseptic in the treatment of gonorrhea. Browning, a syphilologist and surgeon, has contributed much to the literature on the use of the flavine dyes in medicine. Acridflavine in its selective bacterial action is bacteriostatic for Gram-negative organisms, and especially for the gonococcus, the colon bacillus and other Gram-negative organisms that infect the genital and intestinal tracts.

In a recent number of the *Journal A.M.A.* Doctors Meleney and Zung-Dau Zau publish a report of some rather extensive experiments with acridflavine. The experiments confirm Churchman's findings that acridflavine is ineffective in its action on the streptococcus hemolyticus. They inoculated rabbits with the streptococcus and then administered acridflavine intravenously. Their experiments show that the dye has a special affinity for certain tissues and organs: the mucous membranes, muscles, skin, liver, kidneys, lungs, stomach, and small intestines are deeply stained; the heart, spleen, pancreas, large intestines, bladder and uterus are faintly stained, and the spinal cord, meninges and the brain were unstained, with the exception of the pituitary body which is stained a deep yellow. No toxic symptoms were noted when the unit dose was given, but when a large dose was injected very rapidly the animals became cyanosed, dyspneic or stopped breathing. Death always followed a 10-unit dose within 6 days. Even a 2-unit dose proved fatal in from 6 to 12 days in 20 percent of the cases. A considerable increase in leucocytosis was noted. The effect on the red blood cells was considered unimportant. There was no delay in bleeding time and only a slight increase in coagulation time.

Clinical Use of Acridflavine

The reports of physicians using acridflavine in the treatment of gonorrhea in civilian practice, private or clinic, do not seem to be as encouraging as were the reports of its use by army officers in military practice. It is considered most effective in the treatment of acute cases, and is used as a daily irrigation in a solution of 1:5,000 to 1:4,000.

The writer has found it much more efficacious in the treatment of females when accompanied with diathermy, one electrode being placed in the vagina and the other over the lower abdomen. The cervix and vagina are cleansed with a solution of sodium chloride and then mopped

out with a solution of 1:1,000 of acriflavine before the application of the diathermy electrodes. Heat increases the bacteriostatic action of anilin dyes. A temperature above 104° F. is injurious to the gonococci.

The writer uses acriflavine in combination with gentian-violet in the treatment of mucous colitis, in a solution of 1:40,000 to 1:20,000 but has had no experience with the use of acriflavine intravenously.

Complementary Selective Bacteriostases

Since it seems unlikely that a dye will be found that is bacteriostatic for all bacterial organisms, the question arises whether it is possible to use a mixture of two dyes. Churchman, after much search for a mixture that would have the combined bacteriostatic action of two dyes—one selective for Gram-positive organisms and the other for Gram-negative organisms—demonstrated that a mixture of gentian-violet and acriflavine fulfils this condition. Churchman says that this mixture combines "the selective features of the two dyes, being bactericidal to all common organisms, more efficacious than either dye used alone." It can be used intravenously or orally, and for topical application, cavity injection or lavage. This is indeed an important contribution to medicine. In extreme cases, where the saving of time and expense are important items, the practitioner can proceed confidently, without waiting for cultures to be grown, with the use of these "complementary selective bacteriostats"—a mixture of gentian-violet and acriflavine.

A number of other dyes have been studied, such as fuchsin, eosin, Congo red, safranin, and methylene-blue.

Methylene-blue a Hemostat

None of these will be considered in this paper except methylene-blue. This dye is weakly bacteriostatic for Gram-negative organisms, is a nerve sedative, and clinically has been shown to be valuable in the treatment of malaria. It has another virtue first presented by Dr. Perdue in *The American Journal of Clinical Medicine*, (Feb. 1922, p. 150), which alone gives it a place in therapy. It is a valuable hemostat for slowly oozing, venous hemorrhage from mucous membranes. It is used in a solution of 1 to 1,000. It can be injected into cavities, applied on cotton used as a vaginal or nasal pack or on compress for the arrest of post-operative hemorrhage from the nose or throat. No contraindications have been noted.

Pure Dyes Essential

The testimony of all investigators seems to be that gentian-violet, methylene-blue and acriflavine are nonirritating to tissues and nontoxic when a pure unadulterated preparation is used in therapeutic dosage. Within the last five years many physicians have reported through medical societies or journals on the clinical use of these dyes. The writer has found no record of either injury or death from their therapeutic use. At the present time, there is no standard chemical formula which will insure that one batch of dye made by a manufacturer will be identical with another batch made by the same or another manufacturer.

Laboratory workers have found difficulty in getting satisfactory stains. It is now possible for them to secure a number of stains with the assurance that a sample from the identical batch from which a purchase is made has been tested by skilled laboratory workers and found satisfactory for the purposes for which the stain is ordinarily used. Such stains bear the stamp "Found satisfactory by the Commission on Standardization of Biological Stains for { above mentioned purposes
for { purposes mentioned on main label.

Use for other purposes not contraindicated unless specifically so stated { above
on main label."

This commission was organized by the National Research Council, but now has independent support. As there is no Commission to certify dyes for intravenous medication, the best that can be done at present is to purchase dyes from a firm which produces those that have been certified by the Commission above referred to. Methylene-blue is the only one of the three dyes discussed in this paper which has been tested by the Commission. The firms manufacturing dyes which have received the mark of approval of the Commission, according to H. J. Conn, the Secretary, are: The Empire Biochemical Co.; Hartman Leddin Co.; MacAndrews and Forbes, National Anilin and Chemical Company, and Providence Chemical Laboratories.

It is best to purchase unbroken original packages of dyes.

Why Are Dyes Bacteriostats?

Just what is the manner in which the selective action of a dye is accomplished has not been demonstrated. Crossley thinks it a chemical reaction. Churchman has shown that the bacteriostatic action of

fuchsin, which is not toxic to Gram-positive bacteria (yet stains them) is not due to the permeability of the stain of this dye to Gram-negative organisms, to which it is toxic, but to a colorless radicle of the sulphonal group. He demonstrated that gentian-violet has radio-activity. Hager notes that fuchsin will not stain acid protoplasm but will stain protoplasm that is rendered alkaline. Change in polarity and ionic reactions between the dye and the bacteria are thought by others to be responsible for the inhibition of the growth of the bacteria. Here is a problem for solution by the biological chemists and physicists.

Summary

Anilin dyes are bacteriostatics. Gentian-violet is bacteriostatic for Gram-positive organisms. Acriflavine is bacteriostatic for Gram-negative organisms. A mixture of these two dyes is bacteriostatic for all common bacteria.

Methylene-blue is a valuable hemostat for slowly oozing, venous hemorrhage from mucous membranes.

Anilin dyes are nonirritant to tissues and nontoxic to man in therapeutic doses. They are diffusible and inexpensive.

They can be administered intravenously or orally, can be applied topically and can be used for injection into cavities or for lavage.

Heat increases the efficiency of these dyes.

Only chemically pure substances purchased from a reliable house should be used.

Anilin dyes with selective bactericidal action should not be confused with antiseptic preparations on the market which contain mercury.

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Interpretation of Urinary Findings with Reference to Toxemias

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IN ORDER to draw definite and trustworthy conclusions from urinary findings, a standard for clinical comparisons is needed.

Such a standard has been established by the writer from study of the results of the examination of about 20,000 collections of urine. Included in these have been about 40,000 separately voided specimens. Of the 20,000 collections, about half were those of the 24 hours' urine. Included in the 24 hours' collections have been about 20,000 specimens of day and night urines collected separately.

Eight or ten thousand persons have furnished these collections, comparatively few of them hospital patients; roughly speaking, 10,000 ambulatory or semiambulatory persons have supplied 20,000 specimens of urine.

It is impossible to examine such a large number of specimens, of the 24 hours' urine especially, without discovering that, in a great majority of the cases, there is absence of certain qualitative and microscopical findings, together with presence of a certain fairly regular range of quantitative findings. For example, serum-albumin, sugar (glucose) and casts, as a rule, have been absent on the one hand, while, on the other hand, the ratio of urea to ammonia has ranged 30 or more to 1; urea to uric acid 40 or more to 1; and urea to P_2O_5 9-11 to 1.

It goes without saying, however, that a standard method for the collection and preservation of urine specimens is needed. For example, it is not wise to draw deductions from the results of the examination of urine voided half an hour or so after the drinking of all the water a person can drink; nor from the results of the examination of specimens voided after long fasting or sleeping; nor from the qualitative or quantitative findings in the cases of persons taking large doses of crude drugs; nor from the findings in the cases of those, especially women, who allow bacterial decomposition to take place in their urine from exposure in an open vessel in a warm room; nor from findings in the cases of specimens delayed, from any cause, in transit.

Standards

Three standards are then to be established before we essay to draw clinical deductions from the examination of a urine specimen:

1.—A routine method for collecting and preserving urine.

2.—A uniform system of qualitative, quantitative, and microscopical technic.

3.—A chart of tabulated results showing the absence of certain qualitative and microscopical findings and the presence of a certain range in the quantitative findings in the overwhelming majority of cases.

According to this system, the definition of the word normal is avoided. We establish what is *usual* in the immense majority of cases. Any specimen not conforming to this usual standard renders the person, voiding it an object of suspicion. He may be "normal" or he may not be, but he is certainly "different," and why he is different is what interests us.

Collection of the Urine

Our method for the collection of urine is, in the main, as follows, stated in form of directions to the patient:

Eat and exercise as usual, but drink not to exceed four cups of any kind of liquid (tea, coffee, water, milk, soup, etc.) during the 24 hours. Take no drugs* for at least a day before beginning the collection. Do not take bicarbonate of soda, alkaline waters or alkaline medicinal agents during the collection.

1.—Void urine on rising, as usual, but do not begin collection until after breakfast. Urinate directly into a clean fruit jar provided with a rubber ring. Save all voided from breakfast to bedtime in one jar labeled No. 1. Save all voided from bedtime to breakfast next morning in another jar labeled No. 2. Keep jars tightly closed and in the coolest possible place. Provide also a freshly voided specimen after breakfast in jar labeled No. 3. Take these jars with entire 24 hours' urine at once to the analyst.

2.—If impossible to collect 24 hours' urine, furnish, instead, the 12 hours' amount by saving that voided during the evening and before retiring in one jar and that voided after going to bed and on rising in another.

3.—When only a single specimen can be furnished, choose that voided about two hours after the noonday meal, which should be eaten as dry as possible.

*The drugs especially to be tabooed are coaltar compounds (aspirin, salicylates, pyramidon, phenolphthalein, urotropin); also sulphonal, etc., bromoseltzer, chloral and particularly sodium bicarbonate.

4.—In any case, tag or label specimens with full information as to collection, name of patient and of physician, address, etc.

Method 1 of collection is to be preferred and is imperative in obstetrical cases.

Method 3 assures limited information only, and is not advised when 1 or 2 can be carried out.

For preserving the urine the following are the directions:

1.—Cleanse well the parts before each urination.

2.—Urinate into a clean glass vessel which has been well rinsed with hot water, for example a fruit jar.

3.—Cover tightly or cork the receptacle and place it in the ice box in summer or in a cold place in winter.

Cold will preserve urine voided by clean persons into clean receptacles.

Preservatives, as chloroform, boric acid, chloral, etc., are not advised. If the urine must be sent from a distance, a little toluene, well shaken into each jar, is possibly the best preservative, but the bottle should be tightly corked as it is volatile. Camphor is next best as a preservative. But it must be remembered that bacterial decomposition, once begun, is not materially affected by camphor. Other drugs interfere more or less with the work of the analyst.

The Usual Clinical Findings

Supposing, now, the properly collected, properly preserved urine reaches the analyst, what are the requirements for it to be graded "usual"? In the first place, *absence of pathology*; in the second place, *presence of indications of a good grade of chemical activity* in the body.

Absence of pathology requires the following to be demonstrated: no serum-albumin (by this not meaning the trace of variously termed protein due to mucus); no sugar (glucose, meaning by this no amount sufficient to show plainly presence of bubbles in the fermentation tube or, more conclusively, no reduction of Benedict's solution on five minutes' boiling); no acetones (meaning by this no red color with Gerhard's test and no purple with Legal's); no bile (meaning by this no greenish-yellow foam or yellow stain on filter paper or yellow stained epithelia or tube casts microscopically, and no positive chemical reactions for bile); no blood (either chemically, as by benzidine test, or microscopically, by finding red cells); no pus (meaning by this not merely a few leukocytes, microscop-

ically interspersed among epithelia, but sufficient in the sediment to thicken with Donné's caustic alkali test chemically, or to show a sufficient number of closely aggregated corpuscles to dominate the microscopic field); no *excess* of urinary coloring matters as urobilin, uroerythrin, or indican; no ammonium carbonate (meaning not enough to give a marked reaction with the writer's tests¹ or to show numerous triple phosphate crystals in the sediment, when examined with the microscope, and certainly not enough to cause the urine to have an ammoniacal odor); absence microscopically of tube casts, of corpuscles in number, crystals in number, connective tissue shreds, parasites, various shreds or clusters of leukocytes; absence of epithelia, save those of the squamous variety or a few of the large round cells found in the urine of almost all women.

The urine, unless mixed with vaginal fluids, should react negatively with the Griess-Ilosvay reagent for nitrite-producing bacteria, but this negative reaction alone does not exclude all pathogenic organisms. Absence of odor or presence of but slight and not disagreeable odor is required, as also a clear appearance, except in cold weather when cloudiness from urates is not unusual; cloudiness from amorphous phosphates is not necessarily unusual.

In the specimens, concentrated by directions printed above, a specific gravity of 1020 to 1030 is not unusual; one below 1015 being unusual and one from 1020 to 1015 somewhat suspicious, when the directions for concentration have been rigidly obeyed. The patient should be able, by means of copious drinking, to dilute his urine to a specific gravity of 1010, or less, as well as to concentrate it to 1020, or more, by abstaining from fluids. Quantitatively, we demand an acidity not to exceed the 1.6 Gram equivalent of HCl in 24 hours, or a hydrogen ion concentration around 6, or a titration acidity not to exceed 30 or 40. On the other hand, we do not deem a specimen which turns methyl-red paper slightly yellow unusual, especially if the person is a vegetarian.

The urinary balances are usually as follows: acidity to ammonia, not much below 1 to 1; urea to ammonia, 30 or more to 1; urea to uric acid, 40 or more to 1; urea to P_2O_5 , 9-11 to 1; urea to chloride, variable, depending on whether patient is a salt eater or not—perhaps 2 to 1 is most usual.

The "split" in acidity of the urine, we believe (though we do not insist), is 1-1.5 mineral acid to 1 organic.

When the 24 hours' urine is furnished, the usual total urea range is from 15 to 25 Grams; the usual ammonia, 0.3 to 0.5 (not 0.7 as formerly stated); the usual uric acid, 0.3 to 0.4; the usual P_2O_5 , 1.5 to 2; the usual chlorides 8 to 10, unless the person is a hearty salt eater. (The high price of meat is reflected above in the lower nitrogen figures which we find in later years, showing that the people are eating less meat and hence less salt also.)

Exception to the above urea range is found to be quite usual in pregnancy, where the urea may run from 8 to 15 Grams per 24 hours without significance.

The relative concentration of the urine for urea is usually about that of the last two figures of the specific gravity, divided by 10, unless the patient is a great salt eater.

What Is Unusual?

Having a clear picture in our mind of the usual run of analyses, our attention becomes immediately fixed when we encounter the following:

1.—A plain, white, sharply-defined ring at line of contact in testing for albumin.

2.—A marked, greenish-yellow, red, or brown precipitate (cloudiness required) in testing for sugar, no attention being paid to a whitish precipitate of phosphates.

3.—A noticeable greenish-yellow or yellow foam in dark colored urine, and a play of colors, (green prominent) in testing for bile.

4.—A blue color with the benzidine test for blood.

5.—A red with Gerhardt's (diacetic acid) or a purple with Legal's test (acetone).

6.—A clot-like mass with Donné's test (pus).

7.—An ammoniacal odor (ammonium carbonate).

8.—A hydrogen ion concentration less than 5.8, or a titration acidity above 40, or an HCl equivalent of 2 Grams or more in 24 hours.

9.—Acid to ammonia in decimals, as 0.5 to 1, or less; also 2 or more to 1.

10.—Urea to ammonia less than 20 to 1, and especially less than 15 to 1.

11.—Urea to uric acid less than 30 to 1, and especially less than 25 to 1.

12.—Urea to P_2O_5 greater than 12 to 1, or less than 9 to 1.

13.—Urea to chlorides 10 or more to 1.

14.—Indican, marked blue or red, especially blue.

15.—Uroerythrin, yellow to red.

16.—Urobilin, plainly distinguishable, green fluorescence.

17.—Microscopically: presence of casts, especially waxy.

18.—Microscopically: presence of red cells, even few.

19.—Microscopically: presence of pus cells in number.

20.—Microscopically: presence of crystals and epithelia not squamous.

N.B. The *reducing power* of a urine specimen is worthy of special consideration. It is quite usual for urine to reduce Benedict's solution if boiled long enough with it.

For example, in making the test for sugar with Benedict's solution, we may say "no sugar," clinically speaking, but, if we keep on boiling, it will be found that quite suddenly the solution will lose its fine blue color and become cloudy-green. *Different persons void urine which reacts differently on such prolonged boiling.* In other words, the reducing power for Benedict's solution varies in different individuals. It is usual for the urine of a healthy person (specific gravity 1020) not to affect Benedict's solution in less than five minutes. The sooner it affects it, the greater the reducing power, hence the more unusual the case. Any reduction in less than five minutes is to be deemed unusual and worthy of investigation.

The Toxemias of Pregnancy

The writer states the results of some twenty years' study of the urine of pregnant women, in collaboration with Dr. Gilbert Fitzpatrick and others, as follows:

Desideratum. The properly collected and properly preserved 24 hours' urine per directions as above. The things nullifying deductions are especially ammonium carbonate, sodium bicarbonate, and coaltar products. No trustworthy conclusions can be drawn when these substances are present in appreciable amounts in the urine.

Pathology. Albumin is, of course, of prime importance but an ill-defined haze with contact tests may mean merely presence of fluids in the urine derived from the organs of generation. Albumin plainly shown by a white compact ring and especially if measurable by quantitative methods (Esbach, Tsuchiya, sulphosalicylic) means pathology, for example: (a) in pernicious vomiting of pregnancy, in severe

cases; (b) in eclamptic toxemias, and (c) in nephritis. The two last are differentiated by the urea-ammonia ratio, which is low (below 15 to 1) in eclampsia, but not so low, or not below 20 to 1, in nephritis. Later, the persistence of albumin after delivery points to nephritis. A sudden rise in the ratio of urea to ammonia, after induction of labor or delivery, together with sudden diminution or disappearance of albumin points to eclampsia.

The reducing power of urine is increased, as pregnancy advances, and in toxic cases is greatly increased. Sugar in amount from 0.25 percent to 1.5 percent, or more, is not uncommon in pregnancy toxemias. Such cases may show no diabetic condition by blood examination, yet fermentation shows glucose in the urine. True diabetes mellitus may appear in pregnancy or diabetic women may become pregnant. In such cases acetone bodies in the urine, or low urea-ammonia ratios, or both together, signify diabetic toxemia. The acetone bodies, if found in cases of pernicious vomiting of pregnancy, especially when starvation is well pronounced, apparently bear no causal relation to the toxemia.

A marked indican reaction, persisting in spite of diet and treatment, is one of the commonest features of certain toxemias of pregnancy.

Uroerythrin is increased in hepatic conditions, apparently most when there is cholecystitis or other gall-bladder condition.

Urobilin in appreciable amount appears in grave hepatic conditions, but absence of acute infections is to be assured before its significance is decided on.

The various balances are affected by toxemias in pregnancy as follows: The acid to ammonia balance is lowered, being less than 1 to 1, but this may not be noticed if the patient is taking acids or if some acute infection (influenza, pneumonia) supervenes. As the toxemia progresses, the acid-ammonia ratio grows less and less, the ammonia increasing relatively.

The mineral to organic acid balance is now under our investigation, but from less than 100 cases we can draw no definite conclusions. A ratio of P_2O_5 to organic acid more than 1.5 to 1 we deem, at present writing, suspicious.

The urea-ammonia ratio we find to be a trustworthy guide to the condition of the patient as regards toxemia.

Progressive lowering of this ratio from 20 to 1, or more, down to 15 to 1 is sus-

picious. Ratios below 15 to 1 are strongly suggestive of impending eclampsia (except in pernicious vomiting where the ratio may fall below 5 to 1 even, without eclampsia necessarily supervening). A ratio lower than 15 to 1 with sudden appearance of albumin in considerable quantity is highly suggestive of eclampsia.

Differentiation of Toxemias

Uterine inertia is a condition frequently found after a more or less protracted period of low urea-ammonia ratios. The lowest urea-ammonia ratios of all are found in the pernicious vomiting of pregnancy, where urea to ammonia less than 5 to 1 is not at all uncommon. (Our observations have been completely confirmed by Dr. William Perrin², of Rochester, N. Y., in a case where carefully recorded and scientific observations were made, supplemented by complete findings postmortem. In Perrin's case the ratio of urea to ammonia was as low as 4.6 to 1. Through some error the normal ratio is stated in Perrin's article to be 15 to 1 instead of 30 or more to 1.

In eclamptic cases the albumin may disappear suddenly after the uterus has been emptied and then the ratio of urea to ammonia may rise to 20 or more to 1. In nephritic cases the albumin tends to increase or, at least, not to diminish from week to week, and may persist for weeks, months or years after confinement, but the urea-ammonia ratio is not a marked feature at any time.

Care must be taken, however, not to assume that an eclamptic case is a nephritic one, just because the urea-ammonia ratio rises more or less suddenly after the albumin appears. We have seen two or three such cases.

Microscopical findings in the urine of pregnancy deal with crystals, pus and blood corpuscles, casts and bacteria. The sharp, spiny crystals of uric acid signify over-acid urine with deposit of uric acid in the body, as in cases of tendency to calculus formation. Persistence of oxalate crystals, especially of the primary form (dumb bells, large octahedra, concretions) also points toward tendency to calculus formation. The presence of triple phosphate crystals in the strictly fresh urine may indicate retention of urine in the kidney-pelvis or in the bladder. Leucin and tyrosin suggest grave hepatic lesion, as acute yellow atrophy.

Pus in the urine, especially in the catheterized specimen, is likely to be due to

infection by organisms of the intestinal type, in which case the Griess-Ilosvay test is positive (but this reaction may be due to proteus vulgaris in the vaginal fluids, hence the necessity for catheterization).

If the catheterized specimen shows pus and a negative Griess-Ilosvay, then tuberculosis or streptococcus infection is suggested. If the catheterized specimen shows no pus, but the urine, mixed with the vaginal fluids, contains pus, while at the same time the Griess-Ilosvay reaction is negative, then the presence of Neisserian infection may be suspected.

Staphylococcus infection is suggested when the catheterized specimen shows pus and when a positive Griess-Ilosvay reaction is also obtained. Such a case, however, must be differentiated from colon-bacillus infection by culture, etc.

(N. B. The Griess-Ilosvay reaction shows presence of nitrite-producing bacteria'. These are the colon bacillus, staphylococcus, and proteus. The bacillus tuberculosis, the streptococcus, and the gonococcus inhibit the reaction, which when positive is a brilliant red color shown by adding 10 drops of the reagent to 10 Cc. of urine. The color begins at the bottom of the test-tube and gradually spreads upward.)

Blood in the urine of pregnant women is not, in our experience, a finding of broad significance. When found, it is usually in nephritic cases of the acute glomerular type in which case the corpuscles are of the typical "shadow" form. But possibility of calculus formation may be thought of when blood is found, as also tuberculous infection or severe, acute, colon-bacillus infections.

Tube-casts may occur in eclamptic cases, along with the albumin, sometimes in considerable numbers. In kind, however, they are more likely to be hyaline or granular and not large or wide. When the large, broad casts occur, especially if waxy in type, chronic nephritis of pregnancy is more likely to be the condition, especially if no blood is found.

Tube-casts may, in some cases, be few or entirely absent in eclamptic urines, and but few in number in early stages of the chronic nephritis, increasing in number, however, as the albumin increases towards term.

Other Toxemias

Diabetic acidosis, so-called, is readily recognized by the usual tests (Gerhardt's, Legal's) for the acetones. But these tests are not sufficiently quantitative, hence the

writer has devised a method for determining, quantitatively, the progress of the toxemia by the use of iodine'. Why this trustworthy and simple procedure is not used in every hospital where diabetics are treated, in preference to the routine of other more elaborate and more expensive methods, is a mystery.

The immediate prognosis can be told with great certainty by this iodine test. That is if, day by day, the number of Cc. of urine necessary to decolorize the reagent grows less and less, the patient is verging toward coma and vice versa. It does not follow, however, that, because one single determination, made on January 1st, for example, is favorable, that the patient will not go into coma on the 7th. Day by day determinations may be necessary, until repeated tests, together with clinical improvement on part of the patient, show a favorable condition. It must be remembered that diabetics are prone to take sudden plunges into acidosis, and that 24 hours is sometimes a longer risk-time in the life of a diabetic than a week in other conditions, when considered from the view-point of these sudden plunges. Progressive lowering of the urea-ammonia ratio, when found, is also a fairly good measure of the acidosis, but if it is true, as claimed, that, in advanced cases of diabetes, the patient has lost the power to split off ammonia, the iodine test is the more trustworthy.

In nephritis we designate the toxemia by the general term "uremic poisoning" and seek to govern our prognosis by blood chemistry determinations of urea and creatinine, together with kidney function tests. Of late, not so much attention has been paid, therefore, to the urine as to the blood and function tests. The writer is not at all inclined to neglect blood chemistry in nephritis, especially in cases of well recognized sclerosis, when the prognosis as to time must be made. Nevertheless, urine analysis and the ophthalmoscope, supplemented by the experience of the clinician, are seldom outranked by the blood findings. We pay little attention to the presence of albumin in the urine of chronic nephritis, fluctuation in the amount of which can hardly serve as a guide to the general condition, although a great increase in amount is, perhaps, to be regarded as an unfavorable sign.

Nephritis

On the other hand we must observe carefully the ability or inability of the patient

to concentrate his urine when abstaining from fluids, hence a fixed specific gravity (1005-1015) we regard as a sign of severe toxemia, as also a progressive lowering of P_2O_5 , quantitatively determined, both relatively as regards urea and absolutely as regards total quantity per 24 hours. Other unfavorable features are (1) increased reducing power and (2) increased indican. Continuous presence of waxy casts in the sediment we observe in severe cases, and no case improves without diminution in the number of these casts.

Involvement of the entire kidney substance is shown microscopically by the finding of tube-casts from the urine-collecting tubules as well as from the urine-forming ones. Death within a few months is presaged by the finding of black, coarsely granular casts in the urine sediment; but these are rare and absence of them must not be construed as a favorable sign. In suppurative nephritis the severe cases are recognized by bacterial casts—two or three in a field of pus.

In patients with the so-called chronic, parenchymatous nephritis of pregnancy, we have not found the various urinary features of toxemias to be important. In these patients the gravity of the case can be measured fairly well by the increase in the amount of albumin as the months go on and by the decrease, if any, after confinement.

In subacute, glomerular nephritis and nephrosis with dropsy, Keith and Barrier⁴ think sodium retention the cause of the dropsy; hence an increase of sodium in the urine is a favorable sign. In their two cases treated with calcium chloride, diuresis was attended by both increased hydrogen ion acidity and sodium chloride excretion.

In acute congestion of the kidneys and in acute nephritis the ability of the patient to dilute his urine by ingestion of fluids must be determined. Power to dilute the urine is also to be considered in cases of chronic, renal congestion due to disturbances of the circulation.

Pressure on the inferior vena cava, in the absence of cardiac diseases, should not be forgotten as a possible cause of the inability of the patient to dilute his urine. Ovarian cysts in women, no matter how old the patients, should therefore be considered as a possible cause of oliguria or anuria in obscure cases.

Cancer and Tuberculosis

Absence of the various urine findings which we have described as those of

toxemia is sometimes a help in the diagnosis, where conditions of renal tuberculosis, calculus or malignancy enter into the consideration. Here the microscope may aid greatly by showing blood-shadows in the urine sediment while the age, history, and physical examination of the patient point toward the condition of greatest probability. It must not be forgotten, however, that malignancy is not confined to old age and that such a condition may occur in patients under forty years of age. Too much reliance is not to be placed, moreover, on the finding of a few tubercle bacilli in urine, nor upon the admission of a gonorrheal history. The x-ray sometimes shows calculus in cases suspected to be tuberculous; on the other hand, cases occur when stone is passed soon after a negative x-ray. Cases known to be gonorrheal may turn out, on careful examination, to be also tuberculous. Patients in whom the x-ray shows calculus, if of long standing, may have developed malignancy from irritation. Tuberculous patients sometimes undergo stone formation in the same kidney where the pus is found. "Enlarged prostates" may turn out to be malignant growths, etc., etc.

It is not within the province of this paper for us to enlarge more fully upon these considerations last mentioned, which are referred to merely for the purpose of warning us not to be content either with the findings of general toxemia as shown by the urine or with the possible absence of such findings.

In regard to toxemias in general, independent of pregnancy, diabetes, or nephritis, I can only repeat what is printed in Dr. Haseltine's⁵ paper, namely, that a number of conditions called disease entities may be merely the end results of a toxic state affecting different individuals differently. Moreover the urinary signs may differ. For example, in hayfever and asthma, the acidity of the urine seems to be most prominent as a sign of coming trouble, the patient becoming worse as the acidity rises in the urine. Before relief is permanent, eliminative measures in general must bring down this acidity to normal. When the acidity finally becomes normal, the patient may then tolerate what was intolerable when the acidity was high. It goes without saying that reduction of the acidity, by means of dilution or by administration of alkalis, cannot be depended on either therapeutically or for purpose of prognosis. In the writer's experience paroxysms of bron-

chial asthma may be preceded by brilliant indican reactions in the urine, but this is not necessarily invariable. Nevertheless, an improvement in the general condition seldom fails to be attended by a decrease in the indican color reaction, if such has been marked at any time. The writer believes that the reducing power of the urine should also be studied in hayfever and asthma and that a diminution of it is a favorable omen.

In cases of severe gastrointestinal toxemia, in addition to a brilliant indican reaction we may find a relative excess of uric acid, the ratio of urea to uric acid dropping below 30 to 1. In the so-called "lithemic" cases, a lowered urea-uric acid ratio and a deposit of urates may be found.

Toxemia and Insanity

The modern treatment of insanity and of various mental conditions has apparently verified the value of the correct interpretations of urine findings. As a member of the staff of the Toren Restoration Hospital, the writer has been able to apply his experience to the recognition of toxic states in a number of these cases. One of the most characteristic and invariable urine findings is the low figure of P_2O_5 , found quantitatively, especially when compared with that of urea. (This finding is in sharp contradiction to the popular notion that an "excess of phosphates" is characteristic of "nerve waste". That a white sediment of phosphates in the urine means an "excess of phosphates," hence "nerve waste," is not true.) As a matter of fact, verified by a great number of observations made by the writer, nervous depression is attended by retention of phosphorus, not waste of it. The more profound and chronic the depression the lower the P_2O_5 in the urine.

Focal infections in these cases are shown in the urine by a rise in the reducing power, apparently due to failure of the liver and pancreas to function perfectly when called on to do extra work in detoxicating.

Drs. J. N. and K. F. Brawner¹ have shown that mental breakdowns are due, in 7.5 percent of the cases, to focal infections and in 16 percent to autotoxemia, a total of nearly one-quarter of the cases in which careful study of the urine can hardly fail to find evidences of causes contributing to the disaster.

According to Dr. A. H. Waterman, of Chicago, who has had much experience in the treatment of various neuroses, practically all the patients examined reveal unusual urinary features as regards acidity or indican, or increased reducing power, which features grow less and less conspicuous after eliminative or other necessary treatment brings about improvement in the general condition of the patient. It goes without saying, however, that repeated urine examinations have been undertaken by Dr. Waterman in order to confirm this observation, which has been made, not merely from occasional tests of single urine specimens.

Without wishing to detract from the undoubted value of modern diagnostic methods in general, the writer thinks that the urine findings described above are not used by the profession as much as they should be and closes with an appeal to clinicians to avail themselves more often of the possible aid to be derived from the simple and inexpensive measures outlined in this article.

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THE moral principle inherent in evolution is that nothing can be gained in this world without an effort; the ethical principle inherent in evolution is that the best only has the right to survive; the spiritual principle in evolution is the evidence of beauty, of order, and of design in the daily myriad of miracles to which we owe our existence.—HENRY FAIRFIELD OSBORN, President of the American Museum of Natural History.

The Wind of Devastation

By GEORGE B. LAKE, M.D., Chicago, Illinois

WEDNESDAY, the 18th of March, 1925, was a mild and spring-like day in Murphysboro, Illinois. The doctors attended their patients and the merchants their customers. Housewives were about their customary duties. The older children were in school and the babies played around their homes.

All this was at two o'clock in the afternoon—at three, more than half of this town of 13,000 souls (about 175 blocks, mostly of residences) was in ruins.

Few seem to remember how it started and none how it happened. They were stunned—overcome—as stories which are to follow will show. That is why this story, which will try to give an idea of how the physicians of this stricken city rose to meet an unparalleled emergency, will be fragmentary and disconnected. No one person could give any connected account. It was like a battle—each saw the little bit that was happening in his vicinity.

What actually did happen was that what appears to have been *two* cyclones, one coming from the southwest and a smaller one from just west of north, met over this ill-fated town and uprooted it. In the southwestern part of town, all the fallen trees point north-east, but at the northern part of the village they point almost due south.

One old farmer, who lived in a fine house, just north of town, went out to his mailbox to get his mail. He saw the storm coming from the southwest, with planks sailing through the trees, and he dragged his daughter with him into the cellar.

The storm from the north struck the house and scattered it, in the form of isolated and separate boards and timbers, for half a mile. Not even one stone of the foundation, above ground, was left upon another. Every tree—some over a foot in diameter—was uprooted. One large tree, its roots bare of earth, lay in the yard, having been carried there, bodily, from a considerable distance. The cellar was half filled with debris. The man and his daughter, crouching in one corner, were unhurt.



Dr. A. R. Carter

One of the Sisters at St. Andrew's Hospital in the extreme eastern part of town, noticed a great darkness and heard a roaring. Small objects on the desk in the office rocked to and fro, and pieces of the roof fluttered by the windows. Only when a corpulent colored woman, clad only in a blanket, came trudging up to the front door with her *chin entirely gone* did they begin to realize what a calamity had befallen.

The hell of wind and rain was very brief. Some say two minutes—some say five. It was probably between the two.

When it was over, those who had been in comparative safety (no one *really* safe, for not one house or building in the city escaped *some* damage and debris fell like hail in the quieter streets) ran out to find every avenue of traffic choked with fallen trees, distorted timbers, piles of brick from chimneys and copings, and scattered all among the wreckage the bodies of the dead and wounded.

Light, power, water and gas were cut off. Thirty working telephones remained, out of 1450 which were in use ten minutes before.

To add to the horror, fires were breaking out here and there among the ruins.

The main retail business district was damaged but slightly (pictures of the business buildings destroyed are here shown), and when the rain of timber and bricks had ceased the men rushed wildly to the places where their houses had been to see if their loved ones were spared to them. One man found three of his children dead in the ruins of his home. The body of his wife was at a distance of 200 feet, and that of a fourth child under a fallen tree in a neighbor's yard.

But, why multiply horrors? The papers were full of them at the time. You all read of the three schools which collapsed. They are pictured here. The marvelous thing to an observer, even after two weeks have been spent in clearing away the litter, is that *anyone* in the storm-stricken area escaped alive.

One or two curious stories of the freaks of the storm and of the people may be of interest before we come to talk of the way in which our professional brethren rose to meet the occasion in a way which should make us all proud of our calling.

Next door to the Logan School, which was a brick structure and was completely wrecked with the loss of 18 lives, stood a frame house which was merely unroofed.

Mr. A. J. Roberts, who, with his father and two brothers, runs an undertaking establishment, was driving in from Carbon-dale and saw the storm coming. When he reached his office, at 3:15 p. m., he found 200 or more people clamoring to have their dead attended. They did their best, with a hearse and ambulance, bringing in the dead and wounded. Many brought in their dead in their arms.

One man worked for two days and nights among the ruins and then reported at the hospital saying his eye hurt him. The eyeball was found to be full of splinters of wood and glass and had to be enucleated.

One physician is still picking sand out of the backs of his wife and children, where it lodged after having been driven *through their clothes* by the force of the wind. They were otherwise unhurt, though their house was completely wrecked.

The State has collected, for its museum, sections of two trees, a foot or more in diameter, through which two-by-four timbers had been completely driven. Several human beings are said to have suffered a like fate.

The problem confronting the medical profession of the devastated area was enormous. In Murphysboro alone, there are said to have been 230 deaths and 1200 wounded, and the first shock had to be met by the doctors of the town and the one excellent little hospital of 50 beds—St. Andrews—which was already caring for a number of patients. Dr. W. H. Evans is the chief of staff of this hospital, and Sister M. Evarista is the Superior.

This little hospital handled about 200 cases during the first few days, besides 20 or 30 children who were not admitted as patients but, being homeless and, many of them, suddenly orphaned, were brought there for temporary safe-keeping.

The Sisters worked from Wednesday night to Friday night without rest, and the operating room was in continuous use from Wednesday to Saturday night.

It was at once realized by the citizens that the situation must be promptly taken in hand by responsible people and the local agencies for relief were organized, with Mr. I. K. Levy as general chairman.

Four sub-committees began to function immediately: medical; supplies; housing and feeding; and transportation and messengers. Other committees were added within a few days: safety; finance; clean-up; rural sections; labor bureau; and statistical information.

The committee on medical affairs was headed by Dr. A. R. Carter, who took full charge. Under his direction, doctors were assigned by him and Dr. Horstman; nurses were supervised by Mrs. M. Rieman; the Red Cross activities were carried on under Mr. Maurice Reddy; and Sanitary arrangements under Dr. Harriet M. Daniel, of the State Board of Health.

The S.O.S. calls which went out by radio and in every other available manner were promptly responded to. The train sent out from Chicago by the *Herald-Examiner* arrived early Thursday morning, bringing 29 doctors, a number of nurses and large quantities of supplies. These Chicago physicians took matters in hand and worked continuously up to Friday evening, when they turned things over to the local organization, under Dr. Carter, the details of that organization being then complete.

Three emergency medical and surgical relief stations were at once established at the Masonic Hall, the Elks' Home and the Eagles' Club. These were manned by the



St. Andrew's Hospital, Murphysboro.



Eagles' Club. The Emergency Hospital.



American Legion Headquarters. The Red Cross Offices are in a large room at the back.



National Guard Formation in front of City Hall.



Longfellow School. (View from the east.)



Longfellow School. (View from the west.)



The Logan School. (View from the west.)



The Logan School. (View from the south.)

local doctors and by those from outside, as fast as they arrived.

The drug stores in a town of this size do not carry heavy stocks of surgical supplies and those on hand at the hospital were needed there. The doctors pooled their stocks of dressings, ligatures, needles—even instruments—and sent them to the relief station to tide over the emergency until outside help arrived.

Everything was free—medical service, food, shelter, taxi and ambulance service—all were turned in gladly as a contribution toward the alleviation of distress.

The Red Cross was on the ground early with nurses and other workers and has been there ever since.

Five canteens were promptly established, in various parts of the town, mostly in churches, for the feeding of the homeless and, later, several milk depots were opened where those having young children and no place to care for them could procure safe and sanitary milk.

An out-patient department was started at the Elks' Home where Dr. Carter, with a clerical secretary, directed the work of 8 physicians. Calls for medical help from all over the city came in here, and when such a call arrived a card was made out showing the name and age of the person and where he might be found, as well as what seemed to be the matter. One of the doctors was given the card and a taxi and sent out to visit the patient. Here he did what he could at once, and made a note of that on the card, as well as showing what the actual matter was with the patient; what further treatment he would need; whether the case ought to be hospitalized, and if so, when; and any other pertinent data. The cases were then followed up as required. This section did excellent work and relieved much suffering.

The day after the storm, supplies began to come in from far and near (some even arriving by aeroplane) and offers of help from all over the country.

During the first rush, all doctors who arrived were put to work, but it was presently found that many of these wished to stay only a few hours or a day and that this constant changing of workers and shifting of responsibility resulted in much confusion and lost motion.

The men who came in and stayed from five days to a week rendered yeoman service, and, after the pinch was past, the

committee, in answering calls offering service, asked if the would-be worker was willing to stay three days or more. If not, his help was declined with thanks.

At the time this is written (fifteen days after the storm) there are but four outside physicians remaining in Murphysboro, who will go at the end of the week, leaving affairs in the hands of the local medical men.

The relief station at the Eagles' Club developed into an emergency hospital of 50 beds, and Dr. R. S. Sabine was placed in charge. Early Thursday morning, Miss Inez K. Dunning, of Chicago, a nurse working under the Red Cross, arrived and took charge of the improvised operating and dressing room at this hospital, where she worked continuously for 72 hours, during which time about 150 cases were handled which required more or less extensive surgical attention.

On Friday, March 20, Mrs. Emma L. Goddard, a nurse from Veteran's Bureau Hospital No. 92, at Jefferson Barracks, Mo., came in and was placed in charge of the wards of this extemporized hospital. Miss Dunning and Mrs. Goddard are still functioning here in their several capacities.

As well as being a hospital, the Eagles' Club is now being used as a depot for medical supplies and as a cafeteria for the Red Cross workers and others who are helping in various ways.

There are now (April 2) 22 patients in this hospital and last week their dressings (for in- and out-patients) averaged 125 daily.

Dr. Carter informed the writer that, as soon as supplies of tetanus antitoxin were available (which was very promptly) every patient treated at the hospitals and relief stations, as well as many ambulant cases outside, received a dose of this serum. No report has been received of a single case of tetanus developing.

When typhoid vaccine was to be had, every patient in the hospitals and relief stations was started on a course of immunization. Efforts are now under way to immunize every inhabitant of the city, and many are coming in for this service.

The Red Cross organization, under Mr. Reddy, is shaping up well in Murphysboro, where they now have 31 nurses (including 10 from the Public Health Service), 12 social workers and 8 miscellaneous helpers, such as typists, stenographers, etc.



Ruins of the High School.



Beginning reconstruction work on the High School.
(Photo by A. R. Carter, Jr.)



One of the wrecked business houses.



Another store that went down.



Tent Camp for the homeless.



Temporary Quarters in shack and tents. (Note tin drum wrapped around tree stump in left foreground.)



This water tower of the C. W. & F. Coal Co., Mine No. 2. This mine is the largest coal mine in the world and is located just outside of West Frankfort, Ill.—Courtesy of Dr. Eldridge.



A remarkable incident in which a steel car was blown from the high line of a mine over the embankment and is resting on automobiles of the miners who were in the mine at work during the time of the tornado.—Courtesy of Dr. Eldridge.

Under the direction of the Red Cross, Dr. Wm. R. Redden is making a sanitary survey of the entire devastated district and reports that everywhere matters are being attended to much as they are in Murphysboro and that no epidemic diseases have appeared anywhere.

The Public Health Service went to work at once. As soon as the water-works plant was ready to resume operations, the general water supply was chlorinated, and this supply is now under constant supervision. All wells were also subjected to chlorination, so that no local areas of danger from this source might remain, and the process is being repeated, as an extra precaution, while this is being written.

The Public Health nurses are working tirelessly. All houses where people are living are being frequently inspected to see that the housing arrangements are satisfactory and that sleeping accommodations, food supplies and their preparation and the disposal of garbage and excreta comply with modern hygienic ideas. Covered garbage cans are being supplied, free, by the Red Cross and arrangements are being made for adequate disposal.

As houses, wells, privies and other adjuncts of living are inspected, they are tagged, so that there may be no duplication of work.

It is believed that the sum donated for relief will total \$3,000,000, and social workers are now busy interviewing families to ascertain their financial status and determine what assistance will be necessary to rehabilitate them. To many people, their home represented the entire savings of a lifetime.

It is planned that, in estimating the amount to be allotted to each, an allowance will be made sufficient to cover the installation of sewer connections, even where these were not present before, so that sanitary conditions will be better than ever.

Of the thousands who were rendered homeless, a considerable number went to the homes of friends and relatives in nearby towns and cities; others were taken in by neighbors who still had a roof over their heads. As soon as the army tents began to arrive, a refugee camp was set up in a cleared space. Many have now drawn tents and set them up on the sites where their homes stood, seeming to feel a pull, even from the tumbled bricks and timbers which once sheltered them. Some are building temporary shacks out of bits of wreckage.



The sense of humor is not dead.



This man must have been overseas.

Hundreds of men are at work all over the city, restoring such houses as can be saved. Most of those which merely lost a roof are now covered. Those which were simply shifted from their foundations are being moved back.

The spirit of the people is remarkable. After the first stunning shock had passed, they began to take stock of themselves and set about the tremendous task of rebuilding the city. It will take weeks in many places to clear away the wreckage alone, before rebuilding operations can be begun.

Two pictures here shown will prove that the sense of humor is not wholly dead. The



A freak of the cyclone. A 2x4 was blown through the box car. The velocity of the timber was so great that it is apparently mortised into the plank tighter than any human could have put it there.—*Courtesy of Dr. Eldridge.*

tent shown with the signs in front of it was set up on the floor where a house once stood.

Of the four principal industries of Murphysboro, two—the M. & O. Shops and the flour mill—are a total loss, fire having completed the work of the wind. The top story of the shoe factory was entirely carried away, but is being rapidly reconstructed. The brick plant was practically unharmed and will be in full operation, employing 125 men, when this is read.

Three pictures showing some of the curious freaks of the storm at West Frankfort, Illinois, were kindly furnished by Dr. C. H. Eldridge, of that city.

Dr. J. E. Reed, of Logan, Illinois, contributes the following account of his experience:

"I will not attempt to describe the storm to you, for that would be impossible, but will try to give you some idea of the condition of the rural districts from the medical standpoint.

"I was twelve miles from home, making a call in the neighborhood of Akin, when I saw the storm approaching and that I was in the path of it, so I reversed my trusty old boat and gave her the juice. When I was some three hundred yards back, a large part of a neighbor's barn landed where I had reversed the car.

"As the storm traveled along and would come to a building, it would look like an explosion and dark smoke, like clouds, would boil up and around and soon you would see the planks and furniture going round and round; then on to the next, and the same thing over.

"But the medical part of it: In the first home I came to, one was dead, another dying, and three badly injured; at the second place, two dying and two injured; the third, one dead and one injured; in the next place there were about a dozen small school children, all injured (a rural school with 40 pupils, the building was blown completely away but no pupils killed).

"We soon ran out of dressings and antiseptics, and would have the farmers' wives tear up sheets for dressings. We used what ever we could find in the homes as antiseptics, such as iodine, phenol, etc. From here, we had to abandon the faithful "Lizzie" on account of the mud, fallen trees and washed-out bridges. We got into a farm wagon and proceeded. It was so dark that one of the drivers had to walk in front of the team with a lighted cigarette to keep us out of wire fences and trees and ruins of buildings. Finally, we came to a creek with the bridge gone. We tied the wagon box down and swam the team and wagon across, and found a number of other children cut and bruised and one man dying. It was that way all through the night and next day. We have them all in good shape now. We are doing about fifteen dressings a day—some five or six burns, deep but not extensive, and the rest are contusions and infected wounds. Our work and dressings have all been gratis and will be as long as they need our attention."

Wm. M. Baxter, Jr., Manager of the St. Louis branch office of the Red Cross, who visited Murphysboro on April 1, stated that he believed this disaster to be the worst since the Ohio flood, and that it was undoubtedly the most destructive tornado in which the Red Cross had ever administered relief work.

So here, then, very briefly and fragmentarily, is the story of The Wind of Devastation, written by a doctor, largely about doctors, and for doctors. This city was not built in a day, and it will take many months to rehabilitate it, but that order has been brought out of frightful chaos in two short weeks is a wonderful achievement, for which credit is due to many agencies, not the least among which has been the physicians; and that such wholesale killing and maiming and such widespread and complete destruction of homes and sanitary installations has occurred without the development of an epidemic of any kind is due, primarily, to the efforts of a united, trained, scientific and public-spirited medical profession, of whose exploits we may all be justly proud.

Specific and Nonspecific Therapy in Syphilis

A Review of Recent Developments in Malaria Therapy of Neurosyphilis

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and

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IT IS strange that the modern therapy of syphilis, based on the employment of such strictly specific remedies as arsphenamine and its derivatives, should be followed by a movement calling for various nonspecific drugs. It is difficult to conceive that the trend of syphilotherapy, so firmly established on the basis of a close relationship between the chemical constitution and the biologic effect of drugs, could be changed to the apparently much less rational employment of nonspecific methods. This tendency seems to be making its appearance particularly in the treatment of paresis. In spite of persistent effort, it is difficult to combat this unusually dangerous form of syphilis with the arsphenamines or other specific chemical compounds. Hence the attempt to resort to methods based on abstract theories rather than experimental chemotherapeutic findings.

It is undoubtedly true that there are powerful biologic forces operating in the syphilitically infected body; forces which sometimes favor treatment with specific drugs and sometimes counteract it. Examples of this are the so-called arsphenamine-resistant cases. It is difficult to understand why some patients, even in the early stages of the infection, are strongly refractory to the curative effect of chemotherapeutic agents while others respond readily with rapid clinical improvement and a negative Wassermann. Various theories have been advanced for the explanation of this phenomenon, all emphasizing these two possibilities: the biologic changes making for an increase in virulence in the *treponema pallidum* and the existence, within the patient, of immunologic processes which tend to extinguish the favorable effects of the therapeutic chemical compound.

Dermotropic and Arsphenamine-fast Syphilis

The possibility of biologic change, and the increased virulence of the spirochete (the latter relating particularly to the specific destructive affinity for nerve cells) have been emphasized by Plaut and Mulzer¹ and

their collaborators. They claim to have cultivated a neurotropic strain which, in experimental rabbit syphilis, behaved differently from the ordinary dermatropic type of spirochete. A considerable amount of work supporting this view has also been done by French investigators.

At the Congress of German Syphilologists in 1923, Jadassohn² stated that when spirochetes become resistant in one patient and are then transmitted to another, they may cause an arsphenamine-fast infection. Kolle³ suggested that arsphenamine-resistance may be the result of biological changes within the human body—changes produced by the syphilitic infection. Jadassohn corroborated this view, calling attention to the changes which characterize the late stage of syphilis. He claims that, in tertiary syphilis, the small content of spirochetes, on the one hand, and the virulent increase of the products of the disease, on the other, can be explained only in terms of specific changes in the body. Such changes are characteristic of the late stage of syphilis. They may also occur in the early stages, as a result of which the syphilitically infected body may no longer be capable of reworking the drug so as to afford its maximum power. The spirochetes may produce an increased number of toxins which wield a destructive effect upon the body.

A considerable number of syphilologists believe that the effect of organic arsenical compounds lies not in the destruction of the spirochetes but in the stimulation of the body to produce immune bodies which bring about the curative effect in the treatment of syphilis. That is why Mueller⁴ claims that the administration of luetin in Wassermann-fast cases will yield the desired effect. For the same purpose of body stimulation Galewsky⁵ recommends the administration of bismuth.

Nonspecific Therapy

In recent years, syphilologists have tried a variety of remedies founded on the principle of nonspecific protein therapy. Tuberculin, milk injections, typhoid and staphy-

lococcc vaccines, sodium nucleinate and many other products were employed either to produce a sharp rise in temperature with subsequent destruction of body proteins and mobilization of immune bodies, or to create intensive leucocytosis. To this category of nonspecific remedies probably belongs the product "Tryparsamide," a pentavalent organic chemical compound discovered by Jacobs and Heidelberger⁶ and studied, biologically, by Brown and Pearce⁷ at the Rockefeller Institute for Medical Research. This preparation has but a slight effect in experimental rabbit syphilis and most stages of human syphilis, but is claimed to be efficient in certain forms of neurosyphilis. Lorenz, Loevenhart⁸ *et al.*, in a paper called "The Therapeutic Use of Tryparsamide in Neurosyphilis", report that this drug was administered to patients committed to institutions as insane and diagnosed as suffering from paresis. It was found that as large a dose as 3 Gms. was tolerated intravenously without symptoms of intoxication and that the clinical and serological improvement in early and violent cases was, in some instances, striking. Since the appearance of the above paper, many syphilologists have employed tryparsamide and found it beneficial in certain types of neurosyphilis. However, warning is sounded against the danger of impairing the vision. It is advised that the product be used only in cases which have failed to yield to other preparations.

The very latest addition to nonspecific therapy is the treatment of paresis and other manifestations of neurosyphilis by clinical inoculation with tertian malaria.

As early as 1887, Prof. Wagner-Jauregg⁹ mentioned the possibility of artificially inoculating patients with malarial blood for the purpose of producing high fever. In subsequent attempts at nonspecific treatment of neurosyphilis Wagner-Jauregg used Robert Koch's tuberculin with the result that a complete remission of general paresis was observed.

Inoculation with Malaria

In his search for a means of influencing the paretic process still more effectively and lastingly, the author tried Besredka's typhus vaccine which, when injected intravenously, produced a marked rise in temperature. In the course of these experiments, extending over a period of many years, Wagner-Jauregg observed that complete and lasting remission occurred in cases which, in the course of treatment, had suc-

cumbed to some infectious disease such as pneumonia, erysipelas, abscess, etc. This suggested to him that treatment might be most effective if an infectious disease were actually produced in the paretic patient. Acting upon this idea, the author inoculated some general paretics with malaria (tertian) from a soldier who had never been treated with quinine. From these patients he inoculated others.

The method of inoculation suggested by Wagner-Jauregg consists of taking blood from the vein of a paretic during or after an attack of malarial fever. A few Cc. of this blood are immediately injected subcutaneously into another patient. The malarial attacks appear after an incubation period of 6 to 36 days. Very high temperature is produced by this method and the patient is permitted to go through from 8 to 12 attacks. The malaria is then checked by quinine treatment. Neosarsphenamine is also suggested to insure complete recovery from malaria; perhaps, too, for the purpose of stabilizing the therapeutic effect of the malarial treatment. It is interesting to note that artificial malaria is very sensitive to quinine. The originator of this treatment claims that recovery from malarial inoculation was always complete. He also claims that in early cases of paresis a complete remission may be expected with a fair degree of certainty. This occurs not only in cases of beginning dementia but also in many cases of severe maniacal conditions and paralytic attacks. This treatment, however, was found to exert a negligible influence on the blood and spinal fluid Wassermann.

Malaria therapy of neurosyphilis has been tried by many syphilologists abroad and by a few in this country, with favorable results in some cases. Some physicians obtained better results than others. As to the explanation of this rather remarkable and unusual type of treatment, some writers are inclined to think that the high fever is of much importance. R. Weichbrodt and F. Jahnel¹⁰ attempted to justify the above theory by actual experimentation. Rabbits were inoculated with *Treponema pallidum* and subsequently exposed to high temperatures such as 42 to 43° C. at various intervals of time. The authors claim that the high temperature had a favorable effect on the course of the disease. Plaut and Steiner,¹¹ on the other hand, while not denying the importance of high temperature, believe that the favorable results of malaria

treatment are due to a biological reaction. They therefore maintain that other organisms, too, can be used for the treatment of paresis, such as the spirochete of recurrent fever, etc. They consider the latter organism preferable because it is biologically more closely related to *Treponema pallidum* than the hematozoon. According to the above authors, the organism of recurrent fever could produce antibodies much more specific and more injurious to the *Treponema pallidum* than could the hematozoon. Furthermore, recurrent fever can be cured by intravenous injections of arsphenamine and its derivatives with much more certainty than tertian malaria by the employment of quinine. Acting upon this suggestion, some syphilologists employed the spirochete of recurrent fever, claiming to have obtained just as good results as with malaria. Data for this type of treatment, however, are as yet very scarce, while malaria inoculation has been employed in a great number of cases.

Modification of the malaria treatment has been brought out by some observers, particularly Prof. Scherber¹⁴ of Vienna and his coworkers. They suggest malaria treatment together with specific treatment by arsphenamine and its derivatives and mercury. As observed by the originator of the method, malaria treatment has a very slight effect on serologic findings. The tests on the spinal fluid remain unchanged. If there is any improvement, it is in no way comparable to the effect upon the clinical course of the disease. Scherber and Albrecht¹⁵ claim that malaria treatment in combination with specific therapy is the most effective method of treating neurosyphilis, and that such mixed therapy influences the positive Wassermann reaction of the spinal fluid in the most favorable way.

Contraindications and Dangers

The great drawback in malaria treatment of syphilis is its danger. Published reports show a definite percentage of deaths. The patients often become very ill and their condition becomes so threatening that interruption of treatment is imperative. Muehlens¹⁶ suggests various precautions. Patients treated with organisms of malaria or recurrent fever must be kept in hospitals free from insects in order not to cause an epidemic. Only patients with good general resistance should undergo such treatment. Advanced and feeble patients should not be inoculated. Patients must be examined before inoculation to discover whether

they can tolerate quinine. Pure tertian malarial strains must be used; any other kind might be dangerous to the patient. The blood should be examined very frequently so that any unfavorable turn in the infection might be noticed in time. Should the infection become too virulent, quinine must be administered immediately. Rapid loss of strength or jaundice call for immediate cessation of treatment and administration of quinine. The patients treated with malaria should not be discharged from the hospital until they are completely free of parasites. Those who receive the spirochete of relapsing fever should remain in the hospital at least 4 weeks after the final attack.

Treatment based on inoculation with malaria has already a number of enthusiastic followers who claim that they are on the road to success in the treatment of general paralysis. They feel that this disease, hopeless thus far from the prognostic and therapeutic points of view, can now in many cases be cured and in others influenced very favorably. These followers of the Wagner-Jauregg therapy find this the method of choice in the treatment of progressive paralysis. In the hands of other syphilologists this method has shown good results, but also considerable disappointment. The latter see the dangers of this treatment and call for caution.

Statistical data gathered from the literature on the subject and presented by Meyer¹⁷ before the Medical Society at Bonn are very interesting. Treatment of paresis by the spirochete of recurrent fever yielded 34 percent of remissions. Arsphenamine therapy, on the other hand, gave 29 percent of remissions. The striking thing, however, is that spontaneous remissions, i. e., those occurring among untreated patients, amounted to 23 to 25 percent. Meyer recognized that there is no unanimity of opinion as to the benefits of the malaria treatment of paresis. One important reason for such divergent opinions lies in the variable character of the clinical material. Another is that under "remission" various stages of improvement are understood. The term remission is not entirely definite. Meyer is of the opinion, however, that it has already been recognized that malaria or recurrent fever treatment of paralysis yield at least as good results as vigorous treatment with arsphenamine. There is no doubt that this method is of practical and theoretical interest. By cautious employ-

ment, particularly with the assistance of specific remedies such as arsphenamine and its derivatives, it may prove of benefit.

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The Treatment of Carbuncles by Electrocoagulation

By A. DAVID WILLMOTH, A.M., M.D., Louisville, Kentucky

A CARBUNCLE is a more or less circumscribed inflammatory area involving the deeper layer of the true skin and subcutaneous tissue down to the fascia. It is characterized by fibrinous exudation; multiple foci of necrosis; and the tissue adjacent to each necrotic plug becoming gangrenous.

Pathology of Carbuncle

The bacterial invasion is by the staphylococcus pyogenes aureus and streptococcus, which gain access to the tissues through the hair follicles and spread to the deeper structures by first involving the columns of fatty tissue connected to the follicles. Each fatty column contains a sweat gland. Products of infection in one of these columns, trying to gain an outlet and not being able to escape to the sides, naturally go the way of least resistance, which is downward. Infection spreads as necrosis, breaking down the sides of the columns, opens inter-spaces, thereby allowing other fatty columns to become involved, the products finding their way to the surface through these, until many openings are the result. Necrosis continually going on causes small openings to coalesce until many larger ones are present, each filled with pus and necrotic tissue giving the condition the honeycomb appearance. The fatty tissue, being less resistant than the skin, becomes involved more rapidly, causing the undermined edges observed in these cases.

While this process is going on beneath the surface, further infection takes place on the surface as more hair follicles become infected by the secretions from the

first; hence the two conditions, going on simultaneously, cause one of the most rapid and, in many instances, the most dangerous types of infection that the surgeon is called on to treat.

Many of these patients owe their condition to the lowered local resistance due to diabetes, and in some to Bright's disease. Many of these patients are among those well up in years, which further lowers their general resistance.

Superficial necrosis occurs relatively early because the spreading deep phlegmon soon cuts off the blood supply to the fat, superficial fascia and skin. Thrombophlebitis is frequent and is one of the reasons why rapid spreading takes place to surrounding structures. Where the foci of infection are about the neck or face, as they commonly are, septic clots in the facial, jugular, or ophthalmic veins, or in the cerebral sinuses, are not uncommon, and should always call for a guarded prognosis. Carbuncles about the face give a 50-percent mortality. Metastatic involvement may also occur in richly supplied lymphatic fields, causing abscesses in the lung, etc., depending on the location of the carbuncle.

Symptoms

Marked constitutional symptoms are present from the start. In many, one or more chills will occur during the twenty-four-hour period, and septic fever is always present.

Such marked symptoms, together with the hard indurated area surrounding the primary focus, with its purplish color,

should enable us to make a diagnosis of carbuncle, and not the more simple type of local infection known as boil or furuncle. If the case is seen early, and close observations are made, delays will not so often take place in instituting active treatment, for here active treatment is the only hope for relief.

Methods of Treatment

Nowhere in surgery is delay fraught with more danger than in cases of carbuncle. Patients should be under the constant observation of the physician and seen at least daily; and cases showing early extensive tissue involvement and those with facial involvement should, if possible, be placed in a hospital at once. If the constitutional symptoms are not alarming, local and general treatment may be tried. If fever is high and frequent chills are present, with marked septic symptoms showing, no time should be lost in temporizing measures. The longer the delay, the greater the necrotic area; the more septic the patient, the higher the mortality. Generally speaking, the writer does not believe it good surgery to wait to see if the condition will localize. It requires too long and the results are far too uncertain to wait on vaccines, poultices, and topical applications.

Should the patient be unwilling to have active treatment instituted, he and the family should be made to clearly understand the risk they are taking, and the more extensive destruction of structures required to obtain relief should natural efforts fail. They should also understand that conditions may quickly arise that entirely preclude further efforts to save life. Time taken to explain fully these points to those interested in the patient will, as a rule, obtain for the surgeon the full consent to do as he thinks best.

If the consent can not be had to interfere in the case actively, then ultraviolet, water-cooled lamp treatments, together with such hot antiseptic fomentations as have best met the indications may be tried. Here vaccines at times do good. Sodium citrate should be used internally, in 10-grain doses, 3 times a day.

Under the old plan of treatment by cutting operations, which at best were not only bloody but followed by severe shock and in many cases death, patients were not to be altogether blamed for taking the chance of expectant plans of treatment. In many instances their chances were about as good as with surgery.

Use of the Cautery

It was this observation that caused the writer to seek more rapid and less dangerous methods in the treatment of these desperate cases. The first departure from the knife was in the use of the cautery, either in the form of the cautery knife, or the heavy cautery, the former being the most satisfactory. This treatment gave rise to many disappointments, the cautery frequently being cold when most needed; cooling rapidly when being used; and, on the whole, far from meeting the demands for a satisfactory method of dealing with this type of case.

Having had extensive experience with the D'Arsonval bipolar current in the treatment of cancer cases, its use in carbuncles naturally suggested itself. The work could be done without anesthesia, as a rule, save hyoscine, morphine and cactin; there was no cutting operation, hence no bleeding to staunch; no shock; and a shorter stay in the hospital. The further advantages were: no hot cauteries to handle, or to cool down while in use, the heat and destruction of tissue being entirely under the control of the operator at all times. Any amount of tissue destruction can be had, depending on the amount of current used and the length of time of its application.

When it is definitely determined that a carbuncle is present, it is the proper time to institute radical measures for its immediate relief. Like acute appendicitis, the time to operate is when the patient is first seen, as the work will be less then and the patient's chances better than at any later period.

Technic of Electrocoagulation

The technic is as follows: Assuming that, for some reason or reasons, the patient should not, or will not, take either a local or general anesthetic, and the amount of tissue destruction is not too great, the area involved can be anesthetized by using the same type of current as will be used in operating. Attach the indifferent electrode of the high-frequency machine to any part of the patient's body that is most convenient; or, what is a very good method, use the autocondensation handle and attach the indifferent cord from the machine to this and tell the patient to grasp it with both hands, not so tightly as to cramp the hands, but firmly. This will give the patient something to do with his hands and prevent his taking hold of you, and is an easy way to make the desired connection.



Early case seen in 3 or 4 days from beginning. Electrocoagulated in office under local anesthesia.

To the other cord of the machine is attached the handle of the active electrode which is to be used with the needle point in destroying the pathology. Start with a very light current—just enough to make the so-called “feather spark”—allowing this to come in contact with the skin about one-fourth inch or little more from the margin of the area to be destroyed. By passing this in a circular manner around the carbuncle for three to five minutes and having your assistant gradually increase the spark up to the point of tolerance, and at the same time increasing the speed of revolutions, the entire area will be numbed, and, without telling the patient, the needle is pushed into the infected tissue as deep as is necessary to reach the deepest points of infection and allowed to remain there, increasing the current if needed until the tissue is blanched white. The amount of current will usually be about 250 to 500 milliamperes and the time 20 to 30 seconds.

When the tissues become white, the needle is removed and inserted into another adjoining area and the current applied by the foot switch until the tissue is again blanched. By repeating this procedure, the entire pathology can, in a few minutes, be entirely destroyed and only healthy tissue remain. When all infected tissue is coagulated, the major portion can be removed at once with a large spoon curette, leaving only a healthy base. Any bleeding points are controlled by allowing the current to arc for half-inch spark distance, when all bleeding will instantly stop. The wound is now clean and

ready to be dressed with plain sterile gauze. Pain will not be experienced after the treatment is over, for the reason that small terminal nerve endings are obtunded by the current.

Severe Cases

If much destruction is going to be needed, the patient should be in a hospital and given a full strength hyoscine, morphine and cactin tablet two and one-half hours before the time of the expected operation. This should be further augmented by the half strength tablet of the same, one-half hour preceding the operation.

The patients usually come to the operating table either in profound sleep or, if not, in that state of “twilight sleep” where they can converse with you, while experiencing no pain, nor remembering anything that happened at the time.

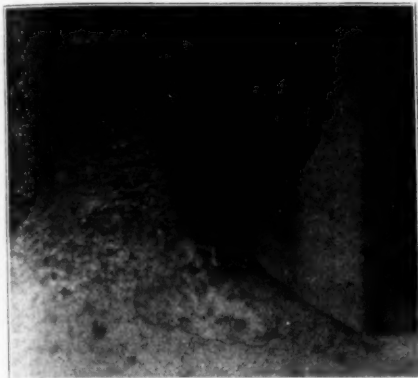


Case seen one week after beginning. Electrocoagulated in office under local anesthesia.

Where an ether anesthesia is used, great care must be exercised to prevent explosion by getting the ether can at safe distance before the treatment is begun. If the operation is about the face or neck, time must also be allowed to get the ether vapor out of the patient's lungs and, as a further precaution, lay a wet towel or gauze over patient's face during the time the current is on. The operator can control any of these dangers, if experienced in the use of the current, by not allowing any sparking to occur on the surface. This is done by keeping the needle in the tissue during the entire time the current is on, and by keeping the needle clean and free from charred accumulations at the tip that is exposed for the first inch or two for contact. No sparking can occur from the portion of needle that is covered by the rub-

ber tubing and away from the tissues.

These cases, being more extensive, will require from 750 to 1250 milliamperes of current to work fast and avoid any hemorrhage, and should have the indifferent electrode applied to some portion of the body, either the thigh, back or abdomen.



Note almost invisible scar on right shoulder following electrocoagulation of carbuncle of two weeks' duration, after treatment with water-cooled ultra-violet lamp.

This indifferent electrode should be of block tin, 6 by 8 inches in dimensions, and must always have round corners. It should be in direct contact with the skin and should be thoroughly soaped or applied over a towel of several thicknesses which has been wet with normal saline solution to make a perfect contact, and should be maintained in direct contact either by an assistant holding it firmly against the skin or bandages or sandbags may be used to maintain the contact. Perfect contact must be kept up at all times, else a burn will be produced by the current arcing across from the tin plate when the current is on. The operator should always use a foot switch so that he may be in perfect control of the current at all times. This insures instant application and likewise instant breaking of the contact when necessary.

The machine should be grounded to a cold water-pipe to take care of any stray currents. Remember, you are using a current of potential danger, both in volts and milliamperes.

If the slough that is going to occur produces much odor, this can easily be cared for by the application of powdered sugar to the wound. The sugar should be moistened enough to form a paste and spread on gauze large enough to cover the wound. The paste should be spread on sufficiently thick to make a smooth dressing when ap-



Late case, seen 2 weeks after beginning. Electrocoagulated at St. Anthony's Hospital under hyosine, morphine and cactin. No instruments needed except a pair of tissue forceps and scissors.

plied, and placed in direct contact with the wound. This dressing can be used exclusively if desired, or an oil dressing can be substituted when the wound has become perfectly clean and free from odor. The separation of the slough can be hastened by the use of pepsin which will rapidly digest out all tissue destroyed by the current, leaving a clean, granulating wound.

The electrocoagulation of these conditions is not only more rapid but much safer than surgical removal, there being no bleeding to annoy or cause shock. It seals all lymphatics, thereby preventing any further danger from metastasis; is painless after the work is done; has no mortality from shock of operation and leaves a smaller and more pliable scar. The scar can further be lessened and the healing process made more rapid by the use of the water-cooled ultra-violet lamp one to two minutes each day, with open lamp at six-inch distance. The use of peroxide to cleanse the wound will not only favor the cleansing process but will act as a photosensitive agent enhancing the therapeutic action of the lamp.

A word of caution should be given in those cases where local anesthesia is used. Remember tissues infiltrated with fluid generate heat much more rapidly than normal tissues. At least one-third less current and time must be used, or else, by the generation of steam, a much wider destruction will take place than was intended.

Electrocoagulation in carbuncles so far surpasses the old treatment of knife or cautery as to make them obsolete.

What Not to Do to Obtain a Large Practice

By DR. L. E. DAUGHERTY, Cumberland, Md.

PERHAPS we are all interested in just what to do to get a large practice, but, after all, what *not* to do seems to be more important and in the long run is the deciding factor in one's ability to amass a large following.

First of all, what is meant by a large practice? Does it mean numbers of patients; a large paying practice or a large office practice; or many outside calls; or is it one that consumes all of one's time? I believe the first is the most important; so, for the sake of comparison, we will not consider the others. Do we ever stop to analyze just why so and so has such an extremely large practice and another an extremely small practice?

Now, there is Dr. Brown; he rides in a Packard, has a chauffeur, regular office hours, always an office full of patients, and morning hours at the leading hospital; while Dr. Black rides in a Ford, drives it himself and seems just as busy but has no office hours, and when he is there, there is never more than one patient waiting to see him. I can hear someone say: "Dr. Brown has personality, or prestige, or money back of him, or (softly, but not sweetly), he must be buffaloeing the people." Now, we must not infer that riding in a Packard sets the standard of excellence, nor that riding in a Ford is the least desirable condition.

A large practice is not always a result of years of service and we oftentimes see them built up in a surprisingly few. There must be something to produce a large following, or else there must be some things not done to prevent a large clientele.

Let us sum up the favorable attributes of a worthwhile physician:

He must be human, insofar that he believes in humanity.

He must be well versed in the essentials of medicine.

He must have sympathy.

He must be considerate.

He must believe in a Supreme Being.

He must have personality.

He must be healthy.

Nothing tends to reduce one's practice so rapidly as ill health. A healthy physician radiates health. Nothing brings out a smile as quickly as a smile—nothing so quickly spreads gloom as a long face.

The "Human" Physician

Sympathy, the milk of human kindness, softens the sting of pain, the sorrow that comes with the flickering of the light of life. It isn't the knowledge of potent drugs or the yield of the skillful hand that is needed then. In the so-called evolution, from the passing of the family doctor to the special specialist, there is not lost that touch of magnetism. Would you pour out your soul to the man who thinks only in calories and sutures?

The physician who knows the value of time has the key to the lock of life. The one that sees ahead of time is the one that sees the wrinkles smoothed, the sorrows banished, the pains softened and the light that shines in a new life. Nothing plays a more important part than time. Time to listen to the distresses, the idiosyncrasies, the how, the when, the where, and the mystery begins to solve itself; for what today is illness, had its beginning, yesterday, in the very things you now hear if only you take time to listen. The time that it will take to get well has another name and therein shines old man Experience.

There are patients who carry a chip on their shoulders and we must get them to thinking our way before we can expect to give them advice. Time, to them, is to unfold the unfairness of our predecessor—his unwillingness to treat them on the "no cure no pay" basis. Here is the time *not* to listen with a sympathetic ear, because, to him, you will be the next, and just as you guide his thoughts now so will you direct the recompense into your exchequer. The nodding eye and the beckoning sound are out of place here and you must let your thoughts turn to better things. Your sphere, the encouragement of the patient's mind to the bright side, the hope of a better future, the banishment of pain and the glad tomorrow, because you know the odds are with you and health does prevail in eighty percent of cases.

You will not increase your hold on him by the "greater than thou" attitude and, even though you believe the other doctor missed his mark with the medical arrow, you might have done likewise had you been the first to be called. You will not impress upon him your superior skill, but, by your every

act, you must show that you are genuinely interested in his welfare from the very moment he approaches your stairway until he is ushered out with a smile.

You will not place upon your walls, where he awaits with trembling fear, pictures of warfare, of pain, of sadness, stuffed specimens of nature's wild life and scriptures in a foreign language proclaiming your attendance in this or that college, this or that "slaughter shop", as he regards all hospitals. Remember, he is trembling and fearing you will hurt him, overcharge him, look all too scrutinizingly at his undergarments, his person, his habits or his ancestors, because he is a victim of heredity.

You will not, because he is somebody of the "four hundred," be overzealous and, in your endeavor to please him, forget the reason he came. You will not over- nor undercharge him, (and I believe the latter more serious) because, in a great measure, he judges the diagnosis in proportion to the charge you make. His ability to comprehend the value of your services is in direct proportion to your ability to put across your knowledge. Manifesting little knowledge and skill, or both, is sealed by underestimating your remuneration.

Ten Don'ts

Don't be so eager to work as to hold office hours on Sunday. If you cannot make a living in six days, you won't in seven.

Avoid both too much and too little recreation.

Carefully avoid making confidants of anybody—you are dealing with life's secrets.

Don't make a professional visit unless you banish all else from your mind but the case before you and, no matter who may be present, let the patient, whether young or old, be the central object and keep your thoughts and your conversation centered on him and his case.

Never guarantee a cure, or certain success for anything, even a mosquito bite.

Guarantee nothing except that you know your duty and will do it, that if your patients will do their best you will do your best and leave the rest to Almighty God.

Not only be the last, but *never* criticize a brother practitioner or his method, because you might have been misinformed, and even if what you think is true it is a gross injustice to speak of it.

Never send a patient to a drug store with a prescription for colored water or anything else you know to be inert. It is not right to cause any one to pay for articles that have no intrinsic value; besides, if among all the simple tonics and nervines in the pharmacopeia you cannot select some recognized agent of more remedial value to a depressed patient than inert, your resources must be very, very limited.

Don't try to practice medicine without some system. The practice of medicine is the work of your life. It is as honest, as useful, and as legitimate a branch of human industry as any other on the face of the earth; and no one earns his means of living more fairly—few, perhaps, more dearly—than the conscientious medical man.

Don't forget that before you have practiced long you will find there are three classes of patients; the prompt paying; the slow paying; and the never paying; and that your welfare will depend not upon how much you book but how much you collect, and that if you do not insist upon the payment of your fees you can never separate the good from the bad. The line must be drawn somewhere.

Don't forget to be kind to the poor and lenient with the unfortunate; but, when people have the means, you should be as firm as any business house in requiring commensurate pay.

This world of ours belongs to the energetic, therefore it is that the best men always "make themselves", because obstacles create character, and misfortune often sharpens latent genius.



Surgical Seminar

Conducted by GUSTAVUS M. BLECH, M.D.

Surgical Preachment No. 1

Lately, a few readers of the Seminar have come in person to attend operations performed by me in the course of my daily practice.

A number of questions have been asked and answered; the diverse opinions of various surgeons of note have been analyzed and their methods compared. Finally, I asked my visitors the question: "What can be done to make the Seminar more attractive and useful?" One suggested: "Discuss from time to time, the very things you have told me while I was your guest. I feel others would be as glad to have your opinions, as I have been. . . ."

I have thought this over and decided to have heart-to-heart talks with our readers on various surgical subjects, entirely apart from the problems which are submitted and discussed.

This month's theme begins with **The Surgeon in the Making.**

Modern education qualifies every medical graduate to practice general medicine, at least to a certain extent, for, after all, continued practice and study, over a long period, are the sole qualifications for specialization. Whether this be acquired a bit faster by intensive study or extended in time as concurrent practice permits, is of small moment.

The young general practitioner is trained to perform emergency operations. No patient should die from a strangulated hernia or an acute appendiceal infection or obstruction of the larynx for want of surgical help, even in the smallest communities. The young practitioner who is blood-shy should not settle in a community where he is the sole practitioner, for he can never be a general practitioner in the true meaning of the word, and he would be morally responsible for avoidable deaths. His place is in the cities where there are many surgeons, and where, accordingly, he can select the cases which he feels qualified, or which he desires, to take care of.

Not all who can do a tracheotomy, herniorrhaphy and appendectomy *lege artis* care to qualify as surgeons. Perhaps

they, better than the inexperienced neophyte, realize the difficulties connected with the art of surgery, and are glad to keep away from it. Others have tastes for nonsurgical specialties or certain surgical specialties; e. g., ophthalmic, aural, nasal and the like, and endeavor to develop in these directions. If all were surgeons, where would we find neurologists, psychiatrists, internists, pediatricians, endocrinologists and what not?

The man who desires to become a surgeon has a right to ask for advice from those who have gone before him and have failed or succeeded, for the experience of the former is perhaps more valuable than that of the successful man. The successful man is prone to forget the nerve-wrecking experiences and the struggles he had to go through until he "arrived." The man who never succeeded in "arriving" does not easily forget the hardships of the long road he traveled. An answer to questions propounded by him who asks about the character of that road must contain the experiences of both, so that the new traveler can decide whether he cares to undertake the journey or not.

I would begin with *enthusiasm*. Without an intense enthusiasm stop right now! I do not care what motives are underlying the enthusiasm, but without professional, social and philosophic enthusiasm, success will be only partial and incomplete. What I mean by "social" and "philosophical" in the preceding sentence will become the subjects of other preachments.

Health is next in importance. A surgeon must be robust and certainly not a worrier. He who becomes unnerved at the first obstacle, irritated or even defeated, is poorly qualified for the battle of life. True, surgery itself is comparatively easy in a physical sense. Occasionally, however, every surgeon encounters cases which tax his physical energy to the utmost, and then it certainly can be said that he earns his bread in the sweat of his brow; because, in addition to the muscular energy, there is an unusual demand on mental energy, which is more exhausting than anything else in this world. The teaching therefore, that

surgery is anatomic dissection, pure and simple, is not always applicable.

Knowledge. I do not care how you have acquired your knowledge; but, to take the knife in your hands without absolute mastery of the situation confronted, and without a sound idea of any possible complications that may have to be overcome, is even more criminal than to take a gun and hold up a man on the highway. The highway man takes money only; the incompetent surgeon takes money, health and life. That, too, will become the subject of a preachment.

Economic competence. Before announcing yourself as a surgical specialist, you must have a competence. You will need a good equipment, many books and magazines; all of which require some outlay and periodic expenditures. But nothing so influences decision with regard to operative therapy as a cramped bank account. When the landlord threatens, when the wife pleads for a new dress and shoes and when your own clothes should have been discarded long ago, that pain in Mr. Gotrocks' side will assume threatening features to be averted only by an immediately performed appendicectomy.

[To be continued.]

Surgical Problem No. 1. Closing Discussion by Dr. Strosnider.

The discussion in the March number, by a large number of contributors, was highly interesting, and I will endeavor to add some data on the problem.

I have known the child since its birth. When fifteen months of age, I was called to see it for its fever, which was high. The tumor on the side of the neck had never given any trouble, but it proved sensitive when I moved the child's head. The very next day, the tumor was larger and more sensitive to touch. A surgeon, whom I called in a few days later, thought the growth was an infected cyst, and had the child taken to the hospital, where he tried to aspirate for pus or lymph. The patient was ordered back to bed. The next day the surgeon advised me that, after reading up, he decided the case was a cavernous angioma, and he declined to make an incision. The father of the child insisted that something be done, so I suggested to the surgeon to make an exploratory deep incision to make sure about the situation. This was done and all present agreed that the growth was a lymphosarcoma, and thus

confirmed the diagnosis which I had made at the very beginning. Also, all were agreed that they had never seen a similar case.

Discussion of Surgical Problem No. 3

Recapitulation. This problem presented by Dr. Crack, in the March issue, referred to a man, aged 32, who suffered for some time from a "cold," with evidence of sore throat. Pulse and temperature were normal at first and subsequent examination a week later. In the course of routine examination, the examiner found a wide scar in the median line of the abdomen, with a hernia. The patient stated that fifteen years ago, after having been treated for six weeks for dyspepsia, he was operated upon for a large abdominal abscess, and that drainage tubes were left in for about six months. He was then assured that the appendix had "drained away."

At the second visit, the patient complained that, while his "cold" was better, he had pain in the abdomen and that he had vomited once.

A few hours later, there was marked tenderness on pressure a little below and to the right of McBurney's point, but no distention or rigidity of the abdominal muscles. Temperature 102° F.; pulse 104.

The requirement called for the proper management of this case.

Discussion by Dr. Emil C. Junger, Soldier, Iowa. This problem is very interesting in that many infections enter through the respiratory tract to be taken up, via the circulation, at a place that offers lowered resistance. I am sure this man has a localized infection in his appendix or its stump or along the track of old adhesions. That this appendix has "drained away" will be accepted by no one familiar with the stubbornness of the appendix in refusing to "drop off" easily. I have had experience with men becoming afflicted with influenza, and that infection causing some mischief in the ileocecal region.

Accordingly, I would answer the requirement thus: This patient may be kept under strict supervision for one or two days, when further developments will suggest the proper course to pursue. It is my conviction that appendicitis secondary to grippal infection is not as virulent as other forms of acute appendicitis.

Discussion by General Geo. Acheson, St. Martins, N. B. My first impression, on

reading this problem, was that Dr. Crack had here a case of recurrent appendicitis, notwithstanding the information that the appendix had "drained away" on a previous occasion.

On looking into it more carefully, however, I am inclined to think it is really a case of a bad "cold" of the influenza type.

The abdominal pain and tenderness about the old appendix focus is probably due to irritation of some filaments of the pneumogastric, and "referred" to this location.

The absence of distention and rigidity is rather against appendicitis or inflammatory process in this region. The rise in temperature and increase in the pulse rate may well be accounted for by an infection of the respiratory tract.

I would, therefore, adopt a waiting attitude, as far as surgical treatment is concerned, and carry out a treatment suitable to influenza or grippe.

Discussion by Dr. Gustavus M. Blech, Chicago. I am fully in accord with the preceding contributors that there is no proof that the appendix has sloughed away, though this actually happens. I have reported a similar case of abdominal abscess in a young man. I then advised no further surgical treatment with the understanding that, if at any time in the future the symptoms of abdominal pathology recurred, the abdomen be opened for the purpose of removing the offending appendix. This happened some months later and I operated, convinced that I would find an appendix ready to burst. I had to cut or, rather, peel my way through many paper-sheet-like adhesions and finally got out the adherent cecum and found a triangular, thick remnant of the appendix, the lumen of which contained a drop of serous fluid.

Amputation of this "stump" *lege artis* resulted in a permanent cure.

I could, of course, narrate many cases of abdominal abscess in which at some later date the appendix gave trouble, but the requirement is explicit.

I do not think there is any relation between the cold and the pain in the abdomen, because the normal pulse and temperature throughout the illness do not suggest infection to cause us to assume hematogenic infection. *Per contra*, I am inclined to believe that this case is identical, in many respects, with that alluded to previously, and that we have a plain case of recurrent appendicitis.

The management depends on the diagnosis and what I mean by that is best answered by an example:

A young man brought his wife to my office for an opinion whether their family physician's diagnosis of appendicitis was correct. The woman appeared to be in good health. There was no rise of temperature, the pulse was normal in rate and pressure. Everything negative except tenderness over the ileocecal region. All maneuvers to "steal" the hand from the left to the right side elicited the same result. I told them that the diagnosis was correct. Asked whether an operation was necessary, I said yes. Asked whether it could be postponed, as the lad had no money, I said no, as appendicitis was a gambling proposition. The couple left and I learned the next day that they did not act upon my advice. Two nights later, I was called by Dr. Savitt, my associate, to rush to the hospital—that our young woman had, undoubtedly, had a rupture of a pus-filled appendix. Dr. Savitt's diagnosis was confirmed by autopsy *in vivo* and we had a hard time preventing it from becoming the cause of a necroscopy.

Editorial Comment

We call on Dr. Crack to close the discussion editorially.

Surgical Problem No. 4.

Discussion and Solution.

Recapitulation. This problem, which was submitted by Dr. Levisohn and published in the March issue, deals with a male patient, 37 years of age, who had had for about three years a tumor about the size of an English walnut, just below the right mandible, half way between the angle and symphysis.

This tumor enlarges and contracts periodically and causes pain. There is nothing noteworthy in his past history except a radical tonsillectomy done ten years ago. An x-ray showed merely the absence of two teeth which had been removed by a dentist without effect on the swelling. Laboratory tests of blood and urine negative. The requirement called for the diagnosis and treatment.

Discussion by Gen. Geo. Acheson, St. Martins, N. B. This case would seem to be a benign tumor of the submaxillary gland, the history at least is against malignancy.

Innocent tumors of this gland are not common, but when found are usually of the

type known as endotheliomata, and may consist of a variety of tissues—fibrous, cartilaginous, gelatinous or glandular. Dr. Levisohn does not give us the physical characteristics of the growth, its consistence, mobility, evidence of encapsulation, freedom, or otherwise, from the overlying skin—signs which have some bearing on the differential diagnosis.

There is another explanation of the etiology of these tumors, which, I think, perhaps, is the most likely; viz.: salivary calculus. This, by obstructing the outflow of saliva, would cause swelling of the gland and pain. The obstruction not being complete accounts for the alternate enlargement and contraction described.

The presence of a calculus or calculi has given rise to chronic inflammatory changes and induration from the gradual growth of fibrous tissue.

If a stone is found in the duct, it can be removed by cutting down on it directly through the floor of the mouth. If, however, it is deeply imbedded, it will be necessary to remove the entire gland through an incision below the jaw. Removal in this way, indeed, is the proper treatment, in my opinion, for any persistent tumor of the submaxillary gland.

Discussion by Dr. Emil C. Junger, Soldier, Iowa. This problem appears to point to the presence of a cyst or chronic abscess that had some connection with the teeth, which had been removed.

The therapeutic problem presents no difficulties whatever; for simple incision will expose the growth, and then removal or drainage, as the case may be, will be the rational procedure.

Discussion by Dr. R. B. Gray, Bay Shore, N. Y. The diagnosis in this problem is salivary calculus, and the treatment removal by expression. This should be accomplished by dilating the opening duct with a mosquito forceps and all cutting procedures should be avoided, if at all possible to do so.

My diagnosis is based on the characteristic location of the growth or swelling, on the intermittency of its size and on the duration of the condition.

A properly made x-ray should confirm this diagnosis, as would also a small metal probe carefully introduced into the duct, until contact with the harder body is felt.

Occasionally the finger alone may prove the sole diagnostic implement necessary, provided, of course, its owner has the required *tactus eruditus*.

Editorial Comment

Dr. Levisohn kindly informed me when he submitted the above problem that the correct diagnosis was that of salivary calculus. As both General Acheson and Dr. Gray, from whom I was glad to hear after some time of silence, have ably discussed this problem, I shall not burden the readers with my own views.

I thank Dr. Levisohn for having submitted this interesting problem.

Obstetric Problem No. 1

Submitted by Dr. Isaac E. Crack,
Hamilton, Ont.

On March 21, at 8 p. m., I was called by a colleague to see an emergency case for him, as he happened to be detained at his office. I found a multipara, within about three weeks of term, who had just suffered an eclamptic convulsion. Her eyes and face were badly swollen; she had a great deal of pulmonary edema. The patient was very restless and confused mentally. During the afternoon, she had sent a message to her physician that she had a bad cold, and he had prescribed an expectorant mixture, but had not seen her. One week previous, her urine had been normal.

I sent the woman to the hospital at once, then her physician took over the care of the case. A catheter specimen of very cloudy urine boiled solid. At 10:30, her physician called me and told me that, after consulting with one of our best surgeons, it was decided to do a cesarean section and I was asked to give the anesthetic, which I did exactly one hour later.

Under the ether anesthetic I thought the patient would drown, her lungs were so full of fluid. As soon as the uterus was opened, I let the patient come out of the anesthetic to the point when she coughed and expelled a very large amount of bloody, frothy mucus, after which she went on much better. A living child was extracted. After operation, we placed the patient on her stomach with the foot of the bed elevated, in order, if possible, to drain the lungs. The odor of urine from the breath was most marked.

The woman had no more convulsions and had done well up to the time when she left the hospital. The baby is still alive and promises to do well.

Requirement: Should this woman have been exposed to the risk of a cesarean section, or was expectant treatment appropriate?

Clinical Notes and Practical Suggestions

Infant Management*

ONE of the reasons why there is so much confusion and difficulty over the management of infants is that many physicians will not spend the time to inform themselves on the subject, and then spend the further time necessary to properly and *thoroughly* instruct the mother, and *make sure she understands*. Explicit written directions are frequently necessary.

In the second place, it is necessary that the mother have the moral support of her physician, if she is to hold her own against the flood of advice which she will receive from relatives, friends and neighbors. Her confidence in her doctor must be retained by *seeing* him give sufficient attention to the baby so that she is convinced that he knows what he is talking about.

Almost everyone now understands the importance of breast feeding, and, if the physician will give the matter sufficient intelligent attention and care, 95 percent of mothers can nurse their babies for at least one to three months; and the first three months of a baby's life are the most important from this standpoint.

If, on account of some physical condition of the mother or child, it is impossible for the child to nurse directly, the milk can be expressed by hand and fed to him and the secretion can thus be maintained for months.

If there is not sufficient breast milk to fully nourish the infant, let him have the benefit of all there is and supplement this with bottle feedings.

The instinct of a mother in caring for *her own* child is the most valuable asset of the baby, and if this is supplemented by the intelligent and sympathetic backing of her doctor, it may be fully relied upon. This does not mean that every woman, just because she is a woman, has a natural ability

to direct the care of some other woman's baby.

Do not be too ultrascientific in the breast feeding of infants. It is a natural, physiological and *simple process*, and the directing of it is largely an *art*. If the physician overloads the mother with too many minute directions for complicated procedures, she is apt to become nervous and worried and that condition will frequently lessen the milk secretion.

Constipation as a cause of infantile illness is vastly overrated. In breast-fed infants, there really is no such thing as constipation. If the bowels do not move very frequently, it is because there is little residue in the bowels to excite peristalsis. These babies almost never need a cathartic, even when ill. If some help to defecation must be given, use an enema.

Diarrhea and other gastrointestinal symptoms are almost always due to faulty diet. They are the result, and not the cause, of fevers. The proper treatment is to manipulate the diet. Some hours of starvation may do good at the start, especially if there is a loss of appetite; then begin with smaller feedings (more diluted, if on the bottle) and add fruit juices, white of egg, or acidify the milk with lactic acid, lemon juice or vinegar. (See the abstract "A Modern Method in Infant Feeding," January, CLINICAL MEDICINE, p. 62.)

Overfeeding of breast-fed babies is extremely rare. The baby is usually the best judge of his requirements. Should he, by chance, get more food than he needs, the excess will be taken care of by regurgitation or an increase in the number of stools. The danger of underfeeding, in reasonably normal conditions, is not great but may become a real cause of anxiety and should be reckoned with. The only safe and universal rule for the quantity of feedings is that the baby should have enough so he will gain 6 or 7 ounces per week.

*Abstract of a discussion of this subject by Drs. Geo. E. Baxter, Julius H. Hess and Joseph Brenne-man, of Chicago, before The Chicago Medical Society, North Shore Branch, April 7, 1925.

The stools of nursing infants are usually normal, *no matter how they look*. Curds and greenish material in such stools are not a sign of pathology and mothers should be so instructed. Blood in the stools, however, calls for prompt and careful consideration by the physician.

Mothers should be given an opportunity to learn how babies act, as to crying, stools, etc., *before* they leave the hospital and then they will not be frightened over the perfectly normal conditions which, with their lack of experience, they are likely to misinterpret. The normal baby cries, and crying is not, as a rule, a sign of illness or disturbed function. Here, again, the elimination of worry will do much to conserve the milk supply.

Teething is a normal, physiological process. It is frequently attended with some discomfort, but is almost never, *per se*, a cause of definite illness. Both mothers and doctors need to have their minds disabused of the old superstition that attacks of fever and other symptoms of illness are due to dentition.

Babies should be exclusively breast-fed for the first five months. At three months, orange juice should be added, teaching the infant to eat from a spoon. Cereals should be added to the diet at 5 months and minced vegetables at 6 months. The baby should be taught early to eat from a bottle, spoon or cup, while the breast supply is still ample, so that when he is weaned he will not refuse his food.

Under ordinary circumstances, weaning should take place after 7 or 8 months and then the keynote of the diet planning should be simplicity. This is true also where bottle feeding must be resorted to earlier.

There are many complicated tables of formulae but a plan which gives as good results as any is to use 1½ ounces of cow's milk, properly diluted, per pound of body-weight (or 100 Cc. per kilo)—this will give all needed proteids and fats—and add 1/10 ounce of carbohydrates in the form of any kind of sugar (cane sugar, dextrimaltose, corn syrup) per pound of body weight. The mixture should be boiled, preferably in a double boiler. Acid may be added if indicated.

With the sick baby, avoid medicines so far as possible and depend on study and modification of the diet. Give the child plenty of water. During the first 3 months of life, it needs three ounces per pound of body weight per day (later, slightly less),

and in sickness should have more, rather than less, than this quantity.

Most infants are overclothed. The feverish baby needs less covering than the well one. Frequently the removal of blankets and wrappings will result in a fall of temperature.

To sum up: Instruct the mother, stand by her against officious friends, give her and her baby painstaking attention, simplify all you can, and depend on nature and the mother's instinct.

G. B. L.

SAFER LOCAL ANESTHESIA

The more or less recent promulgation of fatalities resulting from use of the different local anesthetics has brought forth reports that have caused many of us, who formerly used cocaine, novocaine and the others rather freely, to shiver. Those of us who were so favored as to escape being the second most prominent figure in a local anesthetic death have scarcely realized that actual demise from this cause was even possible in the face of ordinary precautions. Frank acknowledgment of these accidents, gotten through a questionnaire, under the auspices of the American Medical Association, has stimulated otolaryngologists and others to seek freedom from this hazard. So far their efforts have taken one of two directions: (1) To find safer methods of using those drugs we now have; (2) to discover some drug more efficient and less likely to produce toxemia or shock.

Along the line of safer ways of administering local anesthesia, we have been strongly advised to discontinue the use of adrenalin chloride in the solution, or at least to use as little of it as is consistent with obtaining desired results. Whether the adrenalin really is culpable in the matter seems—at least in the minds of some of us—a good deal questionable. Certainly we have no conclusive demonstration that it is or is not.

In response to the desire for a more satisfactory drug, we have been offered butyn, which is a synthetic derivative of cocaine. It is claimed that butyn is no more toxic than cocaine, grain for grain, and that it is far superior in power to produce anesthesia. Our experience after having given butyn a fair trial seems to indicate that these claims are amply justified. In our nasal surgery, one of us has used cocaine and the other butyn. For this purpose we

have employed a 4-percent solution of the newer drug in a solvent of one part of adrenalin chloride to two parts of distilled water. The surface of the mucosa is painted with this. Two applications are necessary. The first visible effect is the development of ischemia. Then follows a rather marked injection of the surface capillaries, and when this stage is reached the surgeon may begin operating.

With such anesthesia we have done twenty submucous resections, five intranasal radical antrum operations, twenty-three ethmoid exenterations, thirteen sphenoid operations and some hundreds of antrum washings and other minor procedures. Not one of these patients showed any lack of the usual anesthesia obtained with cocaine crystals, and not one of them presented any symptom that might even be suspected as evidence of toxemia or shock, so far as we could determine.

Using the butyn-suprarenin tablets, in one-sixth of 1 percent to one-fourth of 1 percent solution for injection, we have done something over 225 local tonsillectomies. Of that number only two did not seem to be properly anesthetized. Both of these exceptions were well injected.

When using novocaine and later procaine in local tonsil work, we were frequently alarmed by a sudden pallor, the complaint of severe headache and at times even syncope. The symptoms came on suddenly, while the injection was being made, and could be attributed to nothing else than the anesthetic. One such patient came very near to death. These effects occurred with about the same frequency when using novocaine as when procaine was injected. Since the time we began employing butyn for this purpose we have not had a single patient who showed any untoward symptom that could be ascribed to the drug used, either at the time of injection or later.

In ophthalmic practice we have used butyn in 2- and 4-percent solutions, for the removal of numberless foreign bodies from the cornea with entirely satisfactory anesthesia in every instance. One drop of the stronger solution or two drops of the weaker (at intervals of one minute) will usually give sufficient narcosis of the surface after two or three minutes. When dropped into the eye, a solution of butyn produces a very transitory dilatation of the pupil, together with some injection of the conjunctival vessels. It does not seem to have any devitalizing effect upon corneal epithelium,

and we use it, in conjunction with holocain hydrochloride, as a routine measure in the treatment of corneal ulcers. It is prescribed as:

R—Holocain hydrochloride gr. I
Butyn gr. II
Aquea Dest. F dr. II
M. et Sig.—Drop into eye every two hours.

This gives highly satisfactory results as to keeping the pain down and as to aiding in the healing process.

We have also used butyn as a subconjunctival injection, immediately before beginning an operation upon the extraocular muscles, after the method of Woodruff, and find it gives greatly lessened pain during manipulation of the muscles.

Our use of this newer drug in ophthalmic and otolaryngological surgery has made us feel strongly that it has great merit. We believe it is a decided advance over anything yet offered the profession, both for securing surface anesthesia and for injection.

L. WESTON OAKS, and
H. G. MERRILL,

Provo, Utah.

Reprinted from *The Eye, Ear, Nose and Throat Monthly*, January, 1925.

A SHIRT-TAIL SUCCESS

The article, "Taking Pen in Hand," on page 183 of the March CLINICAL MEDICINE has stimulated me to send in some of my experiences, hoping that they may be of use to my medical brethren.

To appreciate the measure of success which I have managed to attain, it will be necessary to know something of my early life.

I was one of a family of eleven children, born and reared in a backwoods section of Mississippi, far from a railroad and where schools were very poor. It seemed absurd to think of acquiring an education.

I wore a homespun dress, woven and made by my mother, until I was 5 or 6 years old when, after an accident with a picket fence, I was promoted to "pants," and felt as big as my dad.

My schooling consisted of 5 or 8 weeks a year, until I was 15 years old, when I had to go to work in the field with my brother.

My work in the field was not always satisfactory to my father and things became so unpleasant that I ran away from home—took my first vacation—and while I was away I saw how other folks lived and

did things in other parts of the country and the impressions made upon me were so strong that I have been taking vacations regularly ever since. Just how to take them doesn't matter greatly, so that you do something different from your regular work.



DR. O. B. BARRON

(The Shirt-tail Success)

Dr. Barron says, "Come to California for your next vacation. We seldom 'pass the buck' out here—we take him along.

When I first began to take vacations from my medical practice, people tried to punish me and said they would go to some doctor who stayed at home to attend to his patients; but, after a while, they learned that by going to visit the medical centers, I was able to give them better and better service.

The first few thousand dollars I put in a savings bank I earned and saved with such stern seriousness that I came near to wrecking my life. I, fortunately, had sense enough, at last, to realize that money wasn't everything, and, in fact, not of much use if you couldn't *live* and get some happiness out of life for yourself and other people.

Since a doctor's time and thoughts are taken up with the sick, rather than with business and financial matters, he should be exceedingly conservative in his investments and turn a cold shoulder to all "get

rich quick" schemes, being satisfied with small and *safe* returns on his money.

Ninety-five percent of patients will be tardy about settling with a doctor if they know that he, himself, is tardy and careless in his business affairs. Fifty percent will not pay at all if allowed to drift along. Go after your fee while the services are fresh in memory, and *keep going* until you get it. If it is a charity case, make no charge, but, if able to pay, collect the *whole bill*—never cut it. If the bill is \$110.00, collect one hundred and *ten* dollars. If you want to settle for \$100.00 do not tell the patient about the other ten, or he will expect to have every bill cut down.



I use poster No. 1 on statements of accounts which have run some time, and No. 2 on receipts for remittances. They produce good results.

Keep your office and yourself always clean and tidy, but do not overdo the furnishings of either.

If you do not feel well, keep still about it. A sick doctor makes a poor impression on his patients. If you are too sick to give your patients skillful and *cheerful* attention, keep away from your office; you will save friends and money.

Here is a picture of the results of one of my vacation trips, and also some stickers I use on my bills and receipts, which bring in good returns.

Compared with many others, my success has not been great; but, considering my shirt-tail start and the relief I have been permitted to bring to suffering humanity, I feel that I have done fairly well.

OLIVER B. BARRON.

Ferndale, California.

A SPLENDID OPPORTUNITY

If some of the M. D.'s that are barely making a living, in some of the larger cities, could be induced to take a location in smaller towns in the northwest where they could enjoy a practice of about \$4,000 to \$7,000 a year, it would be a fine thing. We have about twenty small towns here in the vicinity of Bantry without a doctor. There

are five good drug stores in this territory and there would be plenty for a physician to do at each one of these points. One of our doctors got a bargain on a large hospital in Western Canada; one took a course in Eye, Ear, Nose and Throat and moved to Bellingham, Washington; one died of drinking moonshine; another of dropsy; another, last fall, had diabetes and moved to a different climate, etc., and that is the way they have gradually been leaving us and we don't seem to be able to get any others to come in. Rather than send from twenty to forty miles for a doctor, people will try to get along without one.

Since our large crop last year, the country is in pretty fair shape. Prospect for a good crop and prices for the coming season are very good and, if we could get a doctor, I am confident he could do well.

Can you help me in securing a good doctor?

GEO. MILLER.

Bantry, N. D.

MEDICAL NOTES FROM PARIS

Problem of Everlasting Life

Dr. Alexis Carrel, the famous Franco-American biologist, has succeeded, according to the *Matin*, in solving the problem of life by demonstrating that tissues can live separate from the body to which they formerly belonged if they are kept in a suitable medium, and that they can be made to live forever. Nine years ago, it is said, Dr. Carrel took sixteen fragments of the heart and other organs of a chicken embryo and kept them in a special solution. The tissues continued to live and develop, and one of them is still living. This fragment is now in the care of Doctor Ebling, who has taken over Doctor Carrel's experiments. Every forty-eight hours it grows from four to forty times its size and has to be trimmed down.

Doctor Carrel concludes that human immortality is by no means impossible so long as equilibrium is maintained between the different organs of the body. Old age, he says, is not the result but the cause of the deterioration of tissue. When the organs can be kept properly coordinated, the tissues will no longer grow old.

Determining the Sexes

The Japanese writer Tu-Se-Ka-Ri states that the sex of unborn can be ensured by the mother.

Tu-Se-Ka-Ri, pointing out that the sex of the embryo is only definite nine weeks after its formation, declares that, if the prospective mother, for at least fifteen days before the ninth week, repeats "My child is going to be a boy" (or a girl if she so desires), her wish will be gratified.

The power of the method is such, he says, that of 1,942 Japanese women who wished to have sons, 1,908 had their wish gratified.

The Mighty Atom

Leading men of science in Great Britain and the United States, and even Russia, are today all corresponding over the question of minute advances in the several laboratories on the structure and behavior of the atom. They believe that they are on the edge of discoveries that may largely, in the sequel, end the struggle for life, at least so far as light and power are concerned.

The finest instrument in the world is probably that in a Cambridge laboratory and it is opening up new secrets, and Professor Sir Ernest Rutherford, who has some remarkable fellow-workers, such as Mr. Aston, is accepted as one of the world's high priests of the new alchemy. He and others have as good as proved that each atom, though it is quite incommensurable, has in it the power of a thousand horses. If we can harness this power, almost all our material difficulties are at an end.

Infinite material power is at our fingertips waiting the release of finer and finer instruments. Nothing is more likely to benefit humanity than help in the making of such machines. The best are costly, and this form of science is ill-endowed.

Object Magnified Twelve Million Times

Our war against microbe-bred disease may find an invaluable new weapon in an extraordinary microscope now at Hampstead, London, the only one of its kind in Great Britain. Some interesting results have been obtained with it there by J. E. Barnard, who is in charge of the optical department of the National Institute for Medical Research.

In the course of his researches, Mr. Barnard has been able to photograph the living bacillus and reveal its finer structure. To understand what this means, it must be remembered that, for the last 30 years, the advance for microscopy has appeared to be at a standstill. It gave a useful magnification of 1000 diameters and beyond that it started to break up itself. It gave a bigger image but no more details.

The idea which resulted in the new microscope was that "white light is of no use to us in the higher magnifications. We will use light with a finer texture (shorter wave lengths)." Mr. Barnard used violet light first, then the ultraviolet rays, which gave him still better detail, and is now experimenting with "soft x-rays" (a weak kind of x-ray that does not penetrate).

He has succeeded in getting a useful magnification of 3,500 "diameters" which is equal to multiplying an object $12\frac{1}{2}$ million times. He shows the bacillus not as a dyed and shrivelled corpse but as a living object, 12 times larger than in the best of the old microscopes, and reveals its structure.

Toxicity of Bismuth

Since Bismuth has been introduced in the treatment of syphilis, recent French literature begins to mention numerous accidents as exhibited by headache, gastric derangement, diarrhea, vomiting, and albuminuria. These evidences of intoxication appear only in certain individuals and disappear with the arrest of the treatment. Among the writers who have cited these accidents are M.M. Bensaude, Oury and Cain, Hudelot and Rabut, Lasegue, Jeanselme, Pinard, Weil and Louvel. M.M. Sezary, Barbe and Pomaret have particularly mentioned certain skin eruptions which they attribute to the administration of Bismuth.

B. SHERWOOD-DUNN.

54 Bd. Victor Hugo,
Nice, France.

ANOTHER CONSULTATION CASE

Dr. Geo. P. Rebold, Box 391, Stockton, Calif., has a case which is puzzling him and asks us to present it and call for consultation.

Male, white, age 40, married; 2 children, boys, aged 8 years and 11 months respectively.

Regular childhood diseases, except scarlet fever and diphtheria. Convulsions in early childhood before school age; cause unknown. No history of poliomyelitis. Right leg weak since childhood. Right foot arched, hammer toes. Ankle weak, turning outward. Neisserian infection in 1909—recovered. Pasteur treatment in 1914. Appendix removed in 1916; enlarged and full of pus—recovered.

In summer of 1923, he noticed that there was a lack of firmness in gripping. Muscles of first finger and thumb of right hand slightly atrophied. No snap to arm in throwing. Reflexes in extremities absent. Babinski reflex of big toes. Slight fibrillation of muscles of hand. Eyes and speech normal. Nervous. Sleep fretful. Worries over trifles. Tires easily, with a feeling of complete fatigue in muscles, especially arms and legs. Shaky feeling. Bowels normal except slight constipation at times with mucus, as from a colitis. X-rays of teeth showed 2 abscessed roots and slight pyorrhea. Infected teeth removed and replaced with bridge. Teeth cleaned and a course of lavage with chlorazene taken. X-rays of spine show several vertebrae out of line but not enough to affect the cord. (These were taken because of several falls to cement floor in the past 3 years.) Blood Wassermann and spinal puncture, taken 6 weeks apart, were negative.

After a year's treatment as outlined below, right hand about the same. Muscles of left hand, especially of thumb, show atrophy. Some fibrillation of muscles of legs, principally the calves. Occasional fluttering of muscles of back; sleep somewhat better; still worries and tires as easily as before. Reflexes in extremities still absent. Eyes and speech still apparently normal.

Diagnosed by one man as progressive muscular atrophy of the Andre Duchenne type, probably due to a chronic poliomyelitis. Another calls it an amyotrophic lateral sclerosis.

Treatment has been: 6 weeks of inunctions with mercury ointment; cabinet baths, followed by needle and nozzle sprays, alcohol rub and electric massage, 3 times a week for 4 months—now once a week; 1/30 gr. strychnine hypodermically once daily for 2 months followed by 1/30 gr. orally 3 times a day for 3 months; a 2-months' course of triple arsenates and nuclein, followed by a 2-months' course of potassium iodide solution. Since November 1st, no treatment except baths, sprays, rubs and electricity.

[Will our readers please study this case carefully and send in comments and suggestions as promptly as possible, so that they may be published in the June number?

We all need to brush up on our neurology, and here is a good chance.—ED.]

VACATIONS

Your article in the current issue "Sports and Vacations" interested me very much. I am fifty years of age and have been practicing twenty-seven years. After my first five years of practice, I have never missed my two-weeks' vacation, spring and fall, taken somewhere in the back woods of Maine or Canada. Twelve years ago my wife and I took a month's trip to California, and three years ago we simply left for a year and a half in the same state.—All of my medical friends and many of my patients took me to task. "My practice built up after twenty-four years of hard work would be all gone when I returned," and many more pessimistic remarks.

Now, what happened? I came home and started in again, and the first year took in more money and did more business than any year of my life. What happened to the men who were away during the late war? So far as my knowledge goes, they are all now doing a good business.

My practice is no different than others nor my patients more devoted. I believe that when we have given years of service to our fellowmen, that at least one year of our life belongs to ourselves, to do as we please, and before we get too old to do and enjoy the things we wish. My hobby has always been fishing and I have visited nearly all the best trout waters of this country and Canada and have obtained a wealth of information. Many of my stories have been published in fishing magazines.

If this information can be of help to any of your readers, I will be only too glad to be of assistance to them. I am not a rich man nor possessed of an enormous practice, but, somehow or other, when vacation time comes, I always seem to find the price to go. One of my ways to save vacations funds is to save all cash office visits. I used to put them in my pocket and they went. Now I save all the two dollars in a desk drawer, banking them every month and I find I am all fixed when the time comes. For physicians dealing with sickness and peoples' peculiarities, day after day, a few weeks spent in the open in the back woods, living the simple life, exercising, eating and sleeping among the spruce trees, loafing, fishing, doing exactly what one's fancy dictates, storing up health and nervous energy, what could be more different from our daily grind and what more pleasant?

I trust that this may help some to make the break, seeing that we can if we only think right.

WILLIAM H. THAYER.

New Bedford, Mass.

POTASSIUM ACETATE IN HEMORRHAGE

I thought it might be of interest to some of the CLINICAL MEDICINE family to know that potassium acetate is an excellent remedy in the many varieties of hemorrhage that the human family is heir to and which often prove a serious cause of worry to the physician.

I have found it to act as a specific in hemorrhages in women during the menopause. I use a teaspoonful of the powder to eight ounces of water; dose, a tablespoonful of the solution every hour. I am always gratified to see the happy results. When ergot and all other remedies fail, try potassium acetate.

CLAIRE E. ARMSTRONG.

Cincinnati, Ohio.

THE NEW VIEWPOINT ON THE TREATMENT OF SYPHILIS

The indiscriminate use of the word "cure" in the treatment of syphilis should be discontinued and in its stead the patient should be made to think merely of an arrested condition, as in tuberculosis. According to a report just made public, such is the opinion expressed by the conference of the United States Public Health Service and State venereal disease control officers, last December, at Hot Springs, Arkansas. This conference advised that persons undergoing treatment for syphilis should expect and seek observational control at appropriate intervals, and under proper medical care, throughout a period of years—instead of considering themselves cured after a few months' or a year's treatment—in order to avoid the late involvement of the heart, blood vessels and nervous system.

The report says that medical responsibility for the health of a patient who has acquired syphilis or gonorrhea is not discharged by mere routine treatment during the infectious stage, but extends to the prevention of crippling, degenerative lesions during the patient's later life. One of the first essentials to such prevention is complete observational control with periodic reexamination. It is urged that such systematic

checking must be carried out through a period of years. Such a course is necessary, because a complete relapse of a patient treated for syphilis may occur in any case, however apparently hopeful at the start.

The conference found that three years may be prescribed as the average period of treatment for the early case of syphilis before it is placed on observation. Five years has been widely accepted as the lapse of time required to reduce the infectious possibilities to a point where marriage may be contemplated.

United States Public Health Service.

TWO UROLOGICAL CASES, ONE ORGANIC AND THE OTHER FUNCTIONAL, HAVING SIMILAR SYMPTOMS

The following two cases are reported quite in detail, to show how, in the presence of an exactly similar symptomatology, one condition may be functional and the other organic; how these can be quickly differentiated; and why a study of the urine, in the case of stone, should be considered of far more value as an aid in diagnosis than the x-ray, cystoscope or wax-tipped renal catheters.

Case 1. Mr. D. was referred to the writer by Dr. M., with a tentative diagnosis of renal stone. For several months this gentleman had suffered with more or less pain in the right renal region, which, at intervals, became very marked—so intense that medical advice was necessary. At this time it radiated into the right testicle and glands. From careful questioning it was evident that the pain was increased in intensity following marked fatigue, either physical or mental. While at Toronto, Canada, visiting an exposition there, at the end of the third day, the pain was so severe that a physician was called. Appendicitis was diagnosed and an operation performed at once; recovery was prompt. On returning home, at the end of a couple of weeks, the same pain recurred in just as aggravated a manner. He was then sent to me for examination. From all subjective symptoms there was no doubt of stone, except that the pain was increased following exhaustion.

Urinary examination revealed the following: specific gravity 1018; no albumin, sugar, casts, pus, blood or free crystals. A marked increase of indican with a phosphatic index 40 percent plus. Crystals of normal type were present.

Under the stimulus of one mistaken operation, and in view of no albumin, red cells or crystals—things that are positively present in case of stone in any place where the urine may wash over it—and with the phosphatic index at 40 percent plus, brom-arsarum was ordered as a sedative and to correct the increased nerve cell metabolism.

The action of the above combination of drugs (arsenic, gold, and bromine), is slow; ten days' to two weeks elapsed before much improvement was noted. About the third week he reported no more pain, except when becoming tired and then it was scarcely noticeable. He has had none now in months.

Case 2. Mr. H. consulted me, having been sent by Mr. D., explaining that he had symptoms similar to those detailed above. There was practically no difference, except that nothing he did increased the intensity of the pain. Urinary examination showed specific gravity 1020; albumin, red cells (many), free crystals of oxalate of lime, much pelvic epithelium and an occasional hyaline cast; there was no sugar, but many leucocytes; the phosphatic index was N. P. (See *Am. Jour. Clin. Med.*, Oct. 1920, p. 667); crystals normal.

Advice was given that there was a stone in the kidney; that it was of the mulberry variety; and that the only treatment was operation.

I was promptly told that he had spent three hours and a quarter on the table of a physician; that x-ray pictures had been made, and the cystoscope used in the bladder, and that a small tube (catheter) had been passed into the kidney with, as the doctor explained, wax upon the tip so that, if it came in contact with a stone, the surface would be abraded. No evidence of stone was found, and the doctor advised against an operation.

Excepting where a foreign body may gain entrance to the bladder, thus causing precipitation of crystals and stone formation, stones in either bladder or kidneys are due to free crystals in the urine, and are caused by defective metabolism.

Having this in mind, the result in the previous case, also the unnecessary operation (a nurse had told Mrs. D., that the surgeon found the appendix normal), at the patient's request medicine was given a trial. The following was ordered: caroid gr. 2 with sodium salicylate grs. 5, for the correction of any digestive defect, and Fl. ex. valerian 15 drops to quiet the worry from which he seemed to suffer.

Ten days later the patient phoned, "One quite severe attack of pain in the side, none for about a week, but now have a marked discomfort, and slight pain after urinating; to-day passed several drops of blood following the flow of urine." Asking him to come to the office, which he did a day or two later, he informed me he had no more pain, either in the side or after urination; he then presented me with something that he said he had passed during the previous day. It proved to be a mulberry calculus, slightly larger than a grain of wheat. He has had no symptoms since.

An examination such as that described can be made by any general practitioner in a very few minutes. Whether pain is functional or organic is quickly shown by the alkaline phosphates found in the urine, which show the state of the nerve cells as to nutrition, and how that nutrition is being used, in the same manner that an examination of blood, as to number of cells and the amount of the hemoglobin present, shows the condition of the blood-forming organs.

Stone in the bladder or kidney is always accompanied by red cells in the urine, albumin, and free crystals of the kind of which the stone is composed. It is impossible to have stone unless free crystals are present. Therefore, after the removal of stone from either bladder or kidney, defective assimilation should always be corrected lest another form.

The writer has seen one man who had four successive operations for stone in the bladder, nothing being done to prevent their reformation. Finding free phosphatic crystals (coffin-lid) in an acid urine, the systemic defect was corrected. He died eight years later of pneumonia, but in that time never had a return of the calculous condition.

Comment on the above cases seems useless further than to say: at the present writing medical science has never been in a worse state of confusion.

Individuals suffering from illness, of which pain is the predominating symptom in the great majority of cases, have submitted to tonsillectomies, extraction of teeth, sinus and abdominal operations, as in the case cited, only to find themselves in a far worse condition than they were before.

It may be considered a rather positive statement, but one the writer has proven by 29 years of personal contact with painful conditions in the human race: The center

of pain is located in the brain, and it is to the brain cells that you must look for a cause, especially in all pain of an indefinite nature, rather than to some local foci of infection, of which each and every physician has located at least one in his chosen field.

Buffalo, N. Y.

J. HENRY DOWD,

INSTRUCTIONS TO THE CONSTIPATED

(Adapted from the literature of a pharmaceutical house.)

The first essential is to obtain a *soft easily passed fecal mass*.

The food should consist largely of vegetables, e.g., carrots, spinach, squash, beans, peas, etc., and fruits, e.g., oranges, apples, figs, etc., jam, honey, marmalade, coarse breads and coarse cereals.

An emulsion of mineral oil lubricates the fecal mass, adds soft bulk and is an excellent aid in these cases. Take two tablespoonfuls the first thing in the morning and the last thing at night.

Select a *definite time* for movement and never vary five minutes each day. Go to the toilet and attempt to have a movement by the use of the voluntary abdominal muscles. If unable to secure a movement, use a small enema (used because a movement may be secured at a selected hour. Cathartics in small, ever-decreasing dosage may be used for a few days, but results are not so good because time of movement is not controlled). Repeat day after day, decreasing the amount of water in the enema, teaching the bowel to move at a certain time.

After a few days, a spontaneous movement will occur and gradually the dosage of the emulsion may be decreased.

When the bowels have been moving regularly for a few weeks, stop the emulsion, but *keep up the definite time*. A lapse would bring about a return of the constipation just as it caused it in the first place. Increase bulky diet at this time.

Any tendency to a return of constipation, as the result of sickness, inactivity, improper diet, neglect, etc., may be easily avoided by use of the emulsion for a few days.

A NOTE ON THE MANAGEMENT OF CHRONIC BRIGHT'S DISEASE

It seems to me that there are but two good methods for the treatment of chronic Bright's disease; viz.---

1. To anticipate it by regular, periodic urine examinations in all individuals past life's zenith; and thus detect most cases early, when treatment is of most promise.

2. The next best method would be to make of each case, when detected (early or late), a retention case. By retention case, in this connection, I mean that the patient is accepted for treatment with the understanding that he appear at the physician's office at regular intervals, once a week, say, at which times the disease can be studied and checked up in regard to progress, symptom variations, variations in the urine and the results of or indicated changes in diet and medicaments. Instead of charging him per consultation and leaving to his judgment the matter of visits, he should be charged for treatment for certain periods of time; for example, per month.

Undoubtedly, some physicians handle these cases in such a manner; and certainly these men can expect better results. It is, of course, an ideal method; and ideals come slowly and through education. It seems, however, that it is time to begin the teaching of this particular ideal.

When an individual learns that he has a chronic Bright's, one of several things will happen, the determination resting perhaps with the mental attitude of the patient and his friends rather than other factors, viz.—

1. Some persons apparently give the matter little thought and may neglect treatment, save to call a physician when they become confined to bed. I have often wondered what attitude such people took in the matter. Either they are ignorant of the progressive nature of nephritis or else they do not understand that it can be held in check by proper study and systematic diet and medicaments. Of course, all such persons are doomed.

2. If the patient is doubtful, he may journey to various other physicians and clinics for confirmation of the diagnosis. These trips are made on "time-expense", so to speak, for valuable days and hours are lost in the matter of treatment. It is quite impossible during this period to treat the disease systematically or intelligently. Not one of the consultants can follow out the treatment. This chaotic interval often ends in the bedridden stage and this person is as truly doomed as the one who ignores his condition. It might be suggested that every minute is valuable; and yet, following a diagnosis by the physician, the patient is likely to hot-foot it for some

institution to wait around several days or weeks only to learn that the first diagnosis was exactly correct.

3. If the patient be "canny" in money matters, he will consult a physician (or druggist) only when his medicine gives out or when he feels worse. In other words, the dreaded office fee often delays the visits, and certainly makes impossible a study of the case. This man also is doomed.

4. There are also various combinations of the above three attitudes. The patient may take some time to think it over and then suddenly realizing his predicament rush around for advice, trying to choose the best but playing physician against physician in a contest where he is sole loser. Or he may finally buy a Pullman ticket to some spa, only to return in a few weeks in a baggage car.

By making of each chronic Bright's a retention case, these things are avoided. A late diagnosis may spell incurable disease; but at least the physician may hold the disease in check and lengthen life. If the patient pays on a monthly basis, it is clear to him that, if he fails to keep his weekly appointment, he is, in every respect, the loser. It goes without saying that he should bring along with him at each visit, a properly collected sample of urine.

Case records? Most certainly! How is a physician to make a follow-up study without such records?

What has been said may well apply to certain other chronic diseases. My particular field has been urine studies. I have seen so many of these cases that there has been impressed upon me the need of a different management of chronic Bright's.

B. G. R. WILLIAMS,

Paris, Illinois.

THE MENTAL LIFE OF CHILDREN

Mothers, most of them, know what to do when children have colds and sore throats.

How many parents know what to do when Jack or Mary has a temper tantrum? A fit of jealousy? A fear of the dark, or new faces, or new activities? A capricious dislike of necessary foods?

How many parents know that their children's thoughts, feelings and habits are as important as the state of their teeth or the strength of their muscles?

How many parents, who wouldn't think of giving castor oil for every physical ail-

ment, have only one method of treatment—a don't—for every bad habit?

How many parents realize that the spoiled child is really a mentally sick child?

Dr. A. Thom, an authority on mental hygiene, says:

"A child has a mental life far more delicate and complex than his physical body, far more difficult to keep in order and much more easily put out of adjustment. A child lives a real mental life, full of hopes, ambitions, doubts, misgivings, joys, sorrows, and strivings that are being gratified or thwarted much the same at 3 years of age as they will be at 30. The home is the workshop in which the character and personality of this individual are being molded by the formation of habits into the person he will be in later life."

Fear, jealousy, and anger are emotions which need to be carefully studied and wisely treated in childhood, according to Dr. Thom. Other problems which puzzle parents and which need attention are those connected with feeding, and those connected with sex instruction. To "bring up" a child intelligently, parents must have an understanding of all these problems and the ability to use that knowledge in creating good habits and curing bad habits.

As Dr. Thom says, "There is no finer or more important job than being a parent." His advice to parents can be summarized as follows:

Don't be oversolicitous.

Don't "baby" your children too much.

Don't try to give your children everything they happen to demand.

Don't bribe.

Don't cheat.

Don't make meaningless threats.

Don't talk about or laugh at children in their presence.

Don't be cold and repelling.

Don't be discourteous.

Don't disagree over discipline in front of the child.

Positive "Do's" to parents are summed up by Dr. Thom in the following: The mental ability of the parents, their control of their emotions, their interests, particularly their interest in the child, their ambitions, or lack of them, their moral standards—these all determine what the child shall make out of the endowment that nature has given him. Some parents who read to their children or tell them stories and answer their questions in an interesting and intelligent manner, though they do not alter the children's intellectual equipment, do furnish a rich soil in which the children

may develop, and thus affect very much the point which their development may reach. Parents can even determine what kind of atmosphere the child's mind shall grow in—one of discontent, wrangling, deceit and hate, or one of cheerfulness, sincerity, and love.

CHILDREN'S BUREAU,
U. S. DEPT. OF LABOR.

Washington, D. C.

OBSTETRICS WITH COMPLICATIONS

On July 26, 1918, a farmer came into my office and said, "We are liable to want you at our house in a few days. My wife is going to be confined," and walked out, not waiting to give or get any more information.

About noon, on the 28th, I was called, a distance of 12 miles, and found a woman in labor. The first observation showed an excessive puffiness of the face and, upon further examination, I found feet and legs swollen until the skin was almost breaking. She informed me that she had been that way for about six weeks and had not been able to sit fully on a chair, but upon the edge, so that she would not be compelled to bend her knees.

Taking note of her actions during the first pain, I immediately got out my chloroform and made ready for almost certain convulsion. I then proceeded to examine her and after most diligent search was unable to find the cervix or any presentation of the fetus. I informed the husband that there was something decidedly abnormal and that I would have to give her some chloroform and make a more extensive examination.

There was only a woman of the neighborhood, besides the husband, in attendance to give assistance, but I proceeded to administer the anesthetic, and, when I had her completely under the influence of it, instructing the husband how to keep up the administration, I proceeded to the examination.

Introducing my hand, I found a tumor to the right, but did not find a cervix. My first impression was that I had an extrauterine pregnancy, but as I had not yet reached the "end" of the vagina, I proceeded with my search and when I had my entire forearm within the vagina, I encountered an occipital presentation of the fetal head, having passed the cervix, and high up in the upper left quadrant. Using every maneuver possible, I was unable to get hold of the fetus in any way in which I could bring it

down, for I had my elbow then resting within the vulva. I had never learned of a similar case and wished for competent assistance more than ever before in all my thirty years of experience.

I informed the husband that I would like some assistance, and, while I doubted that any could be secured in time to be of any use, I would like him to make an effort. The nearest telephone was three miles away. He could not drive so, realizing the necessity for haste, I gave the woman a "once over" and took the chance. The nearest doctor was 30 miles away and I found him "out." The next one, 40 miles away, was not at home and the next one was 70 miles away. I explained my case and informed him that she would be dead or through in some way, I felt sure, before he could arrive, but he informed me that he would start.

I rushed back, having been gone not 20 minutes, and proceeded to clean up at once. While I was thus occupied the woman attendant gave an excited call for me and I knew at once what had happened, and rushed in, finding the patient in a convulsion. I at once pushed the chloroform and, on examination, found that the convulsion had forced the fetal head down somewhat, so that I was able to apply the forceps, although it was still so high I had to bring the handles within the vulva. I delivered a dead fetus from which the epidermis was slipping. My assistant arrived about two or three hours later.

The woman revived from the anesthetic in a short time. I placed her on arbutin, gr. 1, every two hours, and digipoten, and upon a strict diet. I secured a specimen of urine which, on test, coagulated three-fourths of its bulk, but in less than two weeks on the above treatment she was up and about and her urine was entirely free from albumin.

Four years previous, this woman had had an operation for uterine prolapsus, evidently a ventral fixation. She was then 38 years of age, being 42 at the time of this confinement, which I presumed would be the last. In about ten months, however, I was informed that she was again pregnant. I kept her closely under observation, but no albumin developed.

On August 12, I was again called and found the same condition existing as before,

except that there was a breech presentation and, with extreme exertion, I had to get both feet through the cervix before delivery could be made, which resulted in a well-developed, healthy child.

I have used chloroform in 1000 confinement cases, seldom to complete anesthesia, except in operative cases, and have never had even a symptom of ill effect. I am always careful that there is a good mixture of air, and this procedure is always appreciated by the patient.

The trials and responsibilities of the country physician can scarcely be understood by his city brother, who has competent help at a moment's notice and is surrounded by trained nurses.

In 1000 confinement cases, I have lost only one mother, the second case I ever had.

W. M. BROWN.

Council, Idaho.

THE VESTIBULAR APPARATUS

There are three primary biological functions of man: nutrition, reproduction and orientation. The latter is secured by the coordinate action of the five senses and the organ of equilibrium in the internal ear. If these do not coordinate, vertigo and other symptoms appear. The vestibular branch of the eighth cranial nerve responds to galvanic stimuli: the cochlear branch does not.

In a glass model of the semicircular canals, arranged with electrical connections, and filled with a 1-percent solution of sodium chloride, it is found that douching one end of the canal with hot or cold water, or whirling them—as in the Barony test—sets up demonstrable electrical currents. It may be that these cause the well-known labyrinthine symptoms.

An explanation of the fact that gastrointestinal irritation frequently produces vertigo may be found in the fact that the pneumogastric and vestibular nerves lie close together in the pons, so that a discharge of energy might pass between them. Electrical stimulation of the duodenum, by an electrode attached to a duodenal tube, has been shown to cause nystagmus like that produced by direct vestibular irritation.

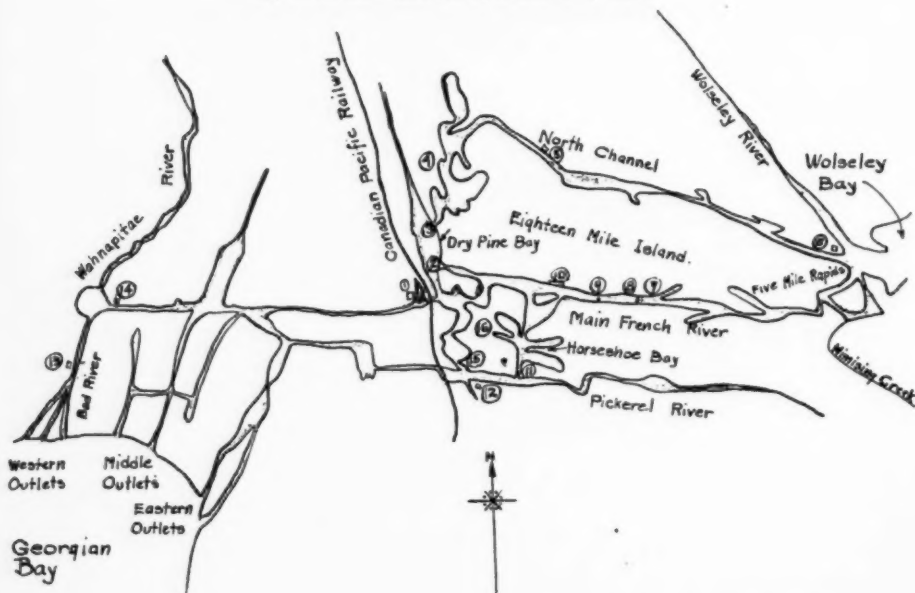
DR. FRANK NOVAK, Chicago, before the Medical Round Table, of Chicago, March 12, 1925.

The Leisure Hour

Conducted by GEORGE H. CANDLER

Canoeing in Canadian Waters

By J. C. BOERTLINE, Cleveland, Ohio



MAP OF FRENCH RIVER DISTRICT.

FOR the expenditure involved I cannot imagine a more satisfactory two weeks' vacation than that which can be enjoyed in the lake region of northern Ontario in Canada. The particular territory in mind is the French River and adjacent waters.

This stream is a series of connected small lakes about two hundred miles north of Toronto. The French River has its source in Lake Nipissing from which it flows in a generally westerly direction, and then in a southwesterly direction into Georgian Bay of Lake Huron. In the accompanying map Lake Nipissing is not shown but it is to the right or eastward. Of geological interest is the fact that here is some of the oldest known rock on the surface of the earth. Here also, the glaciers in prehistoric times scoured the earth, laid bare the rock and ground and polished it so that the ex-

tensive effect is still visible today. In fact, channels and depressions were ground out which found their greatest representation in the basins now occupied by the Great Lakes. In a similar manner but on a smaller scale, many small depressions now occupied by lakes and connecting waterways were scooped out by the titanic force of the glaciers.

Of historic interest is the use of this stream by the great French explorer, Champlain, whereby he was able to reach Georgian Bay and thus attain access to the three largest of the Great Lakes.

This river of connected lakes has a quite definite channel all the way. There are many enlargements which, if taken alone, would in reality be small lakes. Then there are many bays and winding waterways so that a newcomer, unless he is an experienced

explorer, is apt to become lost. A portion of the stream follows two approximately parallel courses. The channels are known as the main channel and the north channel. These again join, to continue as one river.

A description of a trip to this locality will now be given. There were three in our party. Our schedule provided for departure from Cleveland, Ohio, on Friday night, via Cleveland and Buffalo steamer. Our baggage was sent on Thursday night so that we could be sure that when we arrived in Toronto the baggage would be there ready for customs inspection. On Saturday morning we landed at Buffalo and made a hurried transfer to the railroad depot where we boarded a Toronto, Hamilton and Buffalo train for Toronto. En route we passed the interesting city of Hamilton. About noon Toronto was reached. Here we whiled away about seven hours until train time. We left about 7:30 p. m. on the Canadian Pacific Railway train, going north, and landed at the station at French River at 3:06 a. m. Sunday. Our outfitters were waiting for us at the station. The river is close to the station and we had our baggage transferred across a small stretch of water to the outfitter's quarters, where breakfast was served.



Fishing at Little French Rapids

Early in the morning it is apt to be quite chilly, even in July or August, but more particularly if it has rained. After the sun comes up the air becomes warm and I have known several days when it was quite hot. Here we awaited our guide. About 6:00 a. m., according to schedule, he came paddling down stream to our landing, and it was interesting to note the steady and rhythmic motion of his paddle. One can travel here without a guide if desired, but we thought that with a guide we would have a more profitable trip because these

men do not have to hesitate or plan their way. They know those regions as we know our cities.

I do not hesitate in recommending these regions to those who are not familiar with them. A vacation can be enjoyed in several ways. You can get a cabin from the outfitter or he can furnish a tent which you can pitch anywhere. The outfitter can suggest a suitable spot. One can stay at such a permanent camp site, provided with a canoe or rowboat, and easily take in the adjacent territory; or one can make longer trips, but always returning to the base. In either of the above cases you can make occasional trips back to the outfitters for supplies or have enough to last; or he can bring some occasionally. The best and most profitable trip, however, is one in which you make your way from place to place, establishing a new camp each night. In country like this such a trip cannot become monotonous, and I strongly advise the use of a guide.

A word as to our outfitting. It has been my custom to obtain from the outfitter our food supplies, canoes, tents and stove. A variety of things can be carried from home, depending on the preference of the individual. Essential are sleeping equipment, strong clothing for outdoor wear, fishing equipment, a hand axe, mosquito netting, a certain amount of water-proof equipment, such as raincoat or poncho, toilet articles such as towels, handkerchiefs, tooth paste, shaving equipment and soap, cooking utensils consisting of several kettles and skillets. Then there are also plates, cups, bowls, knives, forks and spoons. Matches are of course a necessity. Tennis shoes are without an equal in that country, because the rubber soles cling to the slanting rock surfaces where leather soles would undoubtedly permit a slip which might cause serious results. A compass is also very valuable. The electric flashlight is a regular godsend. In addition to the above, I can mention the camera, wool socks, medical emergency outfit and a few handy tools including some nails.

We left our better clothes with the outfitter and donned our vacation clothes. If one is clothed in a cap, a heavy wool shirt, a pair of trousers made of water-proof material, wool socks and tennis shoes, the requirements for the trip are pretty well met. In addition, a water-proof coat, sweater, an extra shirt, and a pair of socks

are desirable. One must bear in mind the possibility of rain, and the baggage—particularly food—must be well protected.

After assembling our outfit, we loaded same into the middle of the two canoes, with a man at each end, and set out upstream. The first object in view is the Canadian Pacific Railway bridge which we crossed about three hours previously in the train. This is a long span of about two hundred and fifty feet. We come now to a comparatively narrow stretch of the river with prominent rock formation on either side. There is practically no underbrush and there is a sprinkling of small trees, mostly of the pine family. All of this region has been gone over by the lumbermen and in few places there still remain the buildings or shacks which these men put up. We soon pass a small farm on our left, one of the few places where there is sufficient soil over the rocks to permit plowing. In many cases the trees seem to find their hold by sending myriads of rootlets into the crevices in the rocks. The rock, generally, is granite.



Meshaw Falls

We next came to a place where the water ran more swiftly due to a narrowing of the channel. This was safely passed by the exercise of a little effort and immediately thereafter, we found a large bay to our left. This is known as Dry Pine Bay. It stretches to the north a matter of five miles. The shores for the most part rise rapidly and there is an abundance of scattered trees which have a white appearance and probably gave the bay its name. This is rather a windy spot, and we learned that a party in a canoe had been recently overturned, without serious consequences, however. We turned up this bay. To the east the main channel of the French River continues. We paddled, industriously, north on this bay and passed gradually over to its east shore, and after about two and a half miles of this

we came to a falls known as Meshaw Falls. This water comes from the so-called north channel of the French River. The canoes were unloaded. The guide turned his over, tipped it up and put it over his head with the thwart resting on his shoulder. This is a convenient way, and perhaps, the only way for one man to carry a canoe easily. The rest of the baggage followed and we set out on the waters of a large bay with a number of islands and many winding turns. This is known as Eighteen Mile Bay, and the island stretching to the east of it is Eighteen Mile Island. The character of the country changes somewhat because the woods are denser and better preserved. There are places on the main channel and its connecting waterways where the shores at a distance all seem to blend into one line.



Scene at Horseshoe Bay

One does not know from mere observation what the outline may be or where the openings are until one approaches close to them. There is a wonderful chance for a stranger to become confused. The map does not show all the various turns and arms which abound here, nor are all the islands shown. A passage between two islands may look like the main channel and cause, to the uninitiated, a lot of lost time, and may finally cause him to lose his bearings.

After winding through such channels in a generally northerly direction, we came to a narrow waterway which was the entry from the bay to the north channel proper. The river here is quite narrow. Close by, the guide spied some ducks. They were not quite old enough to fly. He carefully guided his canoe past them and then curved in toward them. They made for shore and he landed quickly, and ran after them. He came back with one in his hands. Later in the day, while tied insecurely to a bush, it escaped.

One cannot paint a word picture of the scenery. Suffice it to say that it was won-

derful and satisfying. The reddish granite rock, sometimes severely bare and sometimes covered with plenty of trees and underbrush, furnishes an entirely different type of landscape than our Ohio woods and, to my mind, far more engaging and entrancing. There is a sort of solemnity about it that our woods lack entirely. It must be seen to be realized.

After passing Meshaw Falls we saw but one person all that day. Every new turn was met with anticipation of what would appear beyond. It had looked like rain and a gentle drizzle fell, but not enough to stop us. We kept going till about noon when we came to a rapids. This was not a difficult rapids to pass but in view of the likelihood of more rain we stopped to pitch camp. In fact there were few rapids on the trip which were large, at most requiring portaging not to exceed two hundred yards. We decided later that camping at a rapids is not altogether desirable, as the noise interferes, at night, with hearing prowling animals who may be in search of food.

In pitching a tent in that country where there is so much rock, the procedure is to hold the guy ropes of the tent by means of poles cut from the forest, and laid parallel to the sides of the tent on the ground. The poles are then held down securely by weighting them with sufficient heavy rocks which can generally be found lying around. This is just as effective as stakes driven into the ground. Later in the day we cut a quantity of balsam boughs to serve as bedding in our tents. The large tent occupied by the three members of our party was 8x10 in size. On top of the boughs we spread three ponchos and two raincoats, then a number of blankets to lie on, and finally, a number of blankets to cover with. This took care of three of us. The guide was accommodated with a "pup" tent. For a fireplace, rocks were arranged to form a space about six inches wide. Two long parallel-placed rocks do this very nicely. Long sticks of firewood can be laid in this space, and the pans or skillets can be placed across the opening so as to have a number of things preparing at once. A grid placed on such rocks is an advantage. We used one.

Our procedure on reaching a camp site was as follows: The canoes were secured. The guide took a hand axe into the woods to cut tent poles, i. e., a ridge pole as long

as the tent, two vertical posts, each with a natural crotch at the top, and two ground poles each longer than the tent for the guy ropes. The members of the party unloaded the canoes, gathered some rocks and helped the guide to erect the tent. Then while the guide arranged a fireplace, the others gathered wood; he made the fire and we brought forward the cooking utensils, water, food supplies, *et cetera*. The guide did most of the cooking. Before dark the boughs were gathered by all, and the beds made. A mosquito netting was placed over the tent flap, and we were ready to turn in. Food supplies and, in fact, everything which could be eaten or gnawed, were in-



Camp at Wolseley Bay

side the tent along the walls. Cooking utensils remained outside. A good time to get up in the morning is 6:00 o'clock and a good time to start camp is 5:00 o'clock in the evening.

That day a little fishing was tried, but without success. The bait which works best here is minnows. All the fish one wants to eat can be gotten if one is fond of fishing and cares to go after them. The water seems to be stained a brownish color, no doubt by organic matter. This does not mean that it is muddy for it is flowing through rock channels. A glass of such water appears perfectly clear. Deep water there looks dark and this may be the reason why the bright silvery-sided minnows prove attractive as bait.

We whiled away our time wandering in the woods. A number of partridges were sighted. That night we had a thunder shower but all our goods were under cover

and protected. I may say that the skirt part of the tent was allowed to lie on the ground, turned inward for a distance of about six inches and held down by numerous small rocks to prevent small animals prowling around from making an entry into the tent in search of food. Especial offenders in this respect are porcupines. One morning a frightened-looking, but apparently enterprising and probably very hungry, squirrel came hopping around and finally risked an advance to my bowl of oatmeal, where he clung to the edge and ate porridge at the same time that I did. On another occasion we had a visit from a skunk. The "kitty" was even willing to come and take something from the hand. Later it became interested in an empty soup can into which it pushed its head, which became jammed there. We saw the amusing spectacle of a skunk with a tin can where its head ought to be. The can was bobbing about as the animal tried to extricate its head and having lost all sense of direction, it walked around stumbling over rocks and depressions like a drunken man. We argued whether it would be the wiser thing to give assistance or to keep a safe distance. We did not know what the consequences might be either way, but discretion proved the better part of valor and we were all finally relieved (including the skunk) when the latter succeeded in freeing itself of its tin helmet.

The next morning we broke camp and continued up the river in an easterly direction with the mainland to the north and Eighteen Mile Island to the south. We were given to understand that Eighteen Mile Island is the stamping ground of many deer. Later in the trip we saw some. We passed about three or four rapids that day. We pulled up to some of these and unloaded, and portaged all or part of our baggage as circumstances required.

I may say that many of the scenes have been photographed and the pictures give a very realistic demonstration of the natural beauty of this country. A number of photographs are submitted herewith. The thick growth persisted for the most part on Eighteen Mile Island except an occasional spots where fire has devastated the region and left bare poles as the remains of what were once splendid trees. It is said that the fires which, by the way, have a habit of spreading by means of the moss on the ground, have the result of promoting

the growth of the flourishing and delicious blueberries which abound here.

That day we travelled the entire length of Eighteen Mile Island, at the easterly end of which is a large bay known as Wolseley Bay. Here on the north shore we pitched camp for a stay of several days. Many trips were made, some up the Wolseley River in a north-west direction. On another occasion we went easterly to a place where an arm of these waters divides into three channels, each having a decided fall. The water can be heard roaring, I should say, one-half mile away. At another time we went up a creek called Mimising Creek. With a guide these spots are made quickly available, whereas without a guide one may be there two weeks and never suspect what is at hand. We moved slowly up this creek. Contrary to the usual character of things, this creek had earth banks, and the water was muddy. Numerous small rapids had to be passed. Many large trees with overhanging branches lined the banks. It was very warm and quiet. We were passing along what seemed like an avenue. The guide watched every ripple in the water to anticipate the need for avoiding rocks, sunken logs or sand banks. Our guide stated that white men rarely travel on this creek because so few of them know of it. There appear to be many lakes hidden away in these regions which require an intimate knowledge of portages and locations to find them.



Fishing at Little French Rapids

On another occasion we paddled into an arm off the large waterway and came to a deserted cabin standing on a bare rock. Fire had visited this place. Our guide found a trail and we followed quietly. Soon we saw three deer. At sight of us they quickly ran for cover. Shortly after, we

beheld a string of lakes stretching away through the trees. Our guide told us that there are seven lakes which could be followed, with portages between. This would make an interesting trip in itself. Everywhere the country is rolling and hilly, so that cross country travel is almost a hardship unless one knows trails or is good at making them. Every here and there, burnt patches occur with gaunt, charred sticks remaining.

The next day we set out to return, this time south of Eighteen Mile Island via the main channel of the French River. Eighteen Mile Island lies between the main French and the north channel. Right at the start we ran into a rapid which marks the head of the so-called Five Mile Rapids. Here is a profusion of rapids over a distance of five miles, some named and some without a name. They are known as Little Pine Rapids, Big Pine Rapids, Double Rapids, Big Parisian Rapids, Little Parisian Rapids and Crooked Rapids. The largest is Big Pine Rapids. It would be dangerous to try to shoot this rapids. The next most formidable seems to be the Big Parisian but it is of uniform width and the guide went down in an empty canoe to show us how it is done.

(Concluded next month)

LONGFELLOW ON THE LINKS

I drove a golf-ball into the air,
It fell to earth, I knew not where,
For I alas, was short of sight
And couldn't follow it in its flight.
I kicked my caddie into the air,
He fell to earth I know not where,
For I deemed it a thing exceeding vile,—
That inferior caddie's superior smile!
Just a moment later I found the ball;

It had hardly budged from the tee at all—
And the caddie was standing sardonically
grim—

I had kicked my opponent instead of him!
—*Boston Transcript.*

YOU AND YOUR BUS

You know the Model of your Car
You know just what its powers are.
You treat it with a deal of care,
Nor tax it more that it will bear.
But as to Self—that's different;
Your mechanism may be bent,
Your carbureter gone to grass,
Your engine just a rusty mass.
Your wheels may wobble and your cogs
Be handed over to the dogs.
And you skip and skid and slide
Without a thought of things inside.
What fools, indeed, we mortals are,
To lavish care upon a car,
With ne'er a bit of time to see
About our own machinery!

—*John Kendrick Bangs.*

A FUNNY WORLD

This is a funny world in which we live.
When two trains come together, that is
called a collision, but when two kids come
together, we call them twins—And both
are disasters.

—*The Angier Idea.*

Doctor: Yes, Sam, you have quite a bad
cough, but it will go away soon.

Sam: Ah knows that, Doc, but what
worries me is will ah go with it.

—*Selected.*

Doctor: You have acute appendicitis.

Fair Patient: Oh, Doctor—don't flatter
me.

—*L. A. Times.*

THERE are five good principles of action to be adopted: To benefit others without being lavish; to encourage labor without being harsh; to add to your resources without being covetous; to be dignified without being supercilious; and to inspire awe without being austere.—*Confucius.*

Thumbnail Therapeutics

STIMULANTS IN OLD AGE

Caffeine in any form, when taken by elderly people, tends to increase nervous irritability and uric acid production and raise the blood pressure.

Alcohol, in small quantities, tends to quiet the brain and nerves and equalize the circulation; it also has some food value.

Alcohol is preferable to tea and coffee as a mild stimulant for the old.—DR. OLIVER T. OSBORNE, F.A.C.P., in *Med. Jour. & Rec.*

DEAFNESS

Ultraviolet irradiations, with the air-cooled lamp, have given excellent results in the treatment of deafness.—DR. T. B. LACEY, in *Jour. of Radiol.*

CHOREA

Put the child to bed for 24 hours. The next day give an intramuscular injection, into the buttocks, of sulpharsphenamine, using 10 Mg. of the drug per kilo of body weight. Repeat every 5 days for 3 doses. Five out of nine patients so treated showed definite improvement.—DRS. MOFFETT and SMITH, in *Arch. Pediat.*

INFECTIONS

In infections about the hands, there is no doubt that lactigen helps in bringing about a lowering of temperature, a localizing of the process and disappearance of the pain.

The dose is 5 Cc. to 10 Cc., intramuscularly, repeated after 36 hours.

There is little or no reaction.

DR. E. H. JOHNSTON, Chicago.

PNEUMONIA

Means and Barach (*J. A. M. A.*, Oct. 15, 1921) have shown that the treatment of pneumonia by alkalis serve as a "conservator of respiratory effort . . . spares the patient avoidable burdens and leaves him free to devote his energy to fighting the infection."

BRONCHOPNEUMONIA

As to bronchopneumonia, Sajous says (p. 1690), "I can not sufficiently emphasize the importance of not waiting until the disease is far advanced, to resort to the use of

alkaline beverages. Their use should begin when the patient is first seen. Quite as important is to supply the patient with fresh air . . . and with all the water he wants to drink."

URINARY INCONTINENCE

To a child of 4 or 5 years, give 5 minims fluid extract of ergot with 2½ minims of fluid extract of licorice, to conceal the taste, in a teaspoonful of peppermint water, three times a day for a week.—SMELLIE.

GASTRIC ULCER

From an economical and financial standpoint, the surgical treatment is to be preferred in a large number of cases, because satisfactory medical treatment requires constant intelligent cooperation by the patient and a long period in bed.

DR. FREDERICK TICE.

WHOOPIING COUGH

Excellent results are reported, following a single, fairly large dose of x-rays over the chest, by DRS. BOWDITCH, LEONARD and SMITH, in *Am. J. Dis. Child.*, and by DR. R. R. STRUTHERS, in *Can. M. A. J.*

BANANAS

The under-ripe banana is a starch; the over-ripe banana is a sucrose with an invert sugar.

Over-ripe bananas may be recognized by their brown skin and bland, sweet taste and are an excellent food for children, being relished and well digested when no other carbohydrate can be tolerated.—DR. SIDNEY V. HAAS, in *Am. J. Dis. Child.*

PLACENTAL EXTRACT

Placental extract stimulates the entire female sexual system, especially the uterus.

DR. A. CERESOLI.

PNEUMONIA

An important feature connected with the treatment of pneumonia is the preservation of the normal osmotic properties of the body fluids. If the blood is abnormally viscid, as is the case when its alkalinity is low, its bacteriolytic and antitoxic properties are so hampered that the beneficial effects of the

remedies are greatly compromised.—SAJOUS (p. 1675).

VERTIGO

Two cases were relieved of vertigo by the administration of 20 to 30 drops of epinephrin, by mouth, twice daily, without associated medication.—DR. BARBAZAN, in *Rev. de Laryngol.*, France.

GRIPPAL CROUP

The laryngeal stenosis of influenza is due to hyperemia and edema, and may be relieved by swabbing the larynx with 0.5 to 1.0 Cc. of a 1 to 1000 solution of epinephrin. This treatment fails in diphtheria.—DR. W. ARNOLD, in *Monatsschr. f. Kinderh.*, Germany.

DIARRHEA OF INFANTS

Do not forget that death, in this condition, frequently results from dehydration. Introduce physiological saline or Ringer's solution into the body to combat this.—DR. W. J. SHELTON.

TRICHINIASIS

Intravenous injections of small doses of neocarsphenamine, 2 or 3 days apart, in cases of trichiniasis, bring about a decrease in the eosinophilia and marked general improvement of the patient. The treatment should be continued until a cure is obtained.—DR. IB HANSEN, in *Ugesk. f. Laeger*.

MENSTRUAL DISORDERS

There is no question but that the posterior lobe of the pituitary has trophic control of menstruation. Dysmenorrhea may be due to excessive action of this gland, aided by the corpus luteum.—BANDLER.

CLIMACTERIC

Occipital headache, radiating behind the ears and down the neck, the spine or the sciatic region, speak for pituitary plus.—DR. J. N. UPSHUR.

NERVOUS DYSPEPSIA

The sufferer from chronic nervous dyspepsia is more often underfed than overfed and needs cheerful encouragement to partake of a larger and more varied bill of fare.—DR. GEO. M. NILES.

ACUTE RHINITIS

If the nasal structures are greatly swollen, shrink them with cocaine. Spray with

a 2-percent solution of potassium iodide; after several minutes, spray with a ½-percent solution of chlorazene (the combination liberates free iodine in the tissues). Repeat sprays after fifteen minutes.

DR. E. L. ROSS.

PYELITIS

In uncomplicated pyelitis, good results have followed the intravenous administration of 0.15 to 0.2 Gm. of neocarsphenamine, to children, and 0.3 to 0.45 Gm. to adults. Dose may be repeated if necessary. Treatment is of no value in gonorrheal pyelitis.—DR. R. W. HISSEN, in *Kansas St. Med. Jour.*

RESPIRATORY DISEASES

In acute respiratory diseases like the common colds or coryza, tonsillitis, bronchitis, influenza and pneumonia, it must be constantly borne in mind that infection is the primary agent and that atmospheric influences are merely secondary or predisposing in that they may facilitate the development of these bacterial infections into actual disease, or, upon the other hand, may indirectly aid in overcoming such disease by assisting the body to resist them.—JAMES ALEX. MILLER, M.D.

ANESTHESIA FOR ELECTROCOAGULATION

The local anesthetic of choice in electrocoagulation of tonsils is ½ of one percent butyn with epinephrin injected into the tissues to be destroyed.

Anesthesia is instantaneous and lasts for several hours. Two mils per tonsil are used and no systemic symptoms have been noted.—DR. ALBERT C. CARLTON, in *Fischer's Magazine*.

CONTRAINDICATIONS TO DIATHERMY

Where there is a walled-off abscess within the pelvis, such as an old pyosalpinx, diathermy should not be used, as it causes these to break down and rupture internally.—DR. W. B. CHAPMAN.

LOCAL ANESTHESIA

When procaine is injected into a vein, it is very toxic. This accident will never happen if the needle is kept in continuous motion while injecting, or when this is impossible, if one aspirates for blood before each syringe-ful is injected.—BLAHD, in *J. A. M. A.*

Current Medical Literature

EPISTAXIS

A good many of us are rather daunted by a severe case of epistaxis, and are likely to think of local applications of adrenalin or thromboplastin, and perhaps of packing the nares and choana, with the danger, which accompanies this procedure, of infecting the middle ear or nasal sinuses.

In the December, 1924, number of the *Wisconsin Medical Journal*, Dr. Thomas L. Tolan advocates a much more rational method of controlling nosebleed by a clean-cut surgical procedure, viz; that of ligating the anterior septal branch of the ophthalmic artery, or the posterior septal branch of the sphenopalatine, as would be done in the case of bleeding from any other artery.

The necessary sutures are passed with a Yankauer intranasal suture needle, and, as a vast proportion of nasal bleeding occurs from one or other of the above arteries, this procedure, almost always controls the hemorrhage.

If bleeding occurs from the lateral nasal wall, or from a point which cannot be reached with a suture, resort may be had to packing.

GRANULOMA INGUINALE

Granuloma inguinale seems to be more prevalent in the United States than was formerly supposed; but, now that a specific seems to have been found in the intravenous use of tartar emetic, it is exciting considerable interest.

Dr. Wm. S. Ehrlich of Evansville, Indiana, reports a case (*Surg. Gyn. & Obst.*, January, 1925) in a white man (which is rather rare), treated and cured with tartar emetic after various other treatments had failed.

The original lesion begins as a papule which breaks down, leaving a raw surface, from which a serious fluid exudes. This lesion remains at the same level as the skin; is very chronic; spreads gradually frequently giving rise to secondary lesions by direct infection; and shows no tendency to spontaneous healing nor amenability to any ordinary antiseptic treatment. There is no lymphadenopathy.

Treponema pallidum is absent from the lesions, as well as Ducrey's bacillus; and

no connection between the disease and sexual congress has been established.

CHEMICAL CLOSURE OF EMPYEMA CAVITIES

One of the most serious problems presented to the surgeon in the treatment of chronic empyemas of the chest is the closure of the large pleural cavities, which frequently have fibrinous walls from $\frac{1}{4}$ to $\frac{1}{2}$ inch in thickness and, sometimes, of almost cartilaginous consistency. This closure has most frequently been accomplished by the extensive operation of decortication of the lung.

In the *Journal of the Indiana State Med. Assn.*, for September 15, 1924, Dr. W. D. Gatch, of Indianapolis, reports a series of 21 cases which he treated by the chemical method.

Recognizing the power of chlorine to dissolve devitalized tissue, Dr. Gatch, after establishing free drainage, placed the patients on the sound side and filled the cavities with a two- to five-percent solution of chlorazene, which was allowed to remain for 15 or 20 minutes and then siphoned off, taking care to prevent contact of the solution with the skin. This was repeated 3 or 4 times a day.

Of the 21 cases reported, complete closure of the wound and obliteration of the cavity were obtained, by this method, in 17; two patients died from causes unconnected with the treatment; one, with tuberculosis, still has a small sinus, but is at work; two required surgical attention—one a small and one a large thoracoplasty.

APOMORPHINE IN ANGINA PECTORIS

Sir.—I happened to see today a letter by Mr. Cyril Helm, D.S.O., F.R.C.S., in the *British Medical Journal*, of June 28th last, on the treatment of angina pectoris, in which he describes a fatal case of an anginal seizure.

Although very late, I should like to draw attention to the effect of a hypodermic injection of apomorphine in such cases. I have seen it act like magic, and I have suggested this treatment to several medical men, who have reported surprisingly good results. The use of this remedy came about in a somewhat curious manner. A bush doctor in Australia (the late Dr. Symes) told me that he was called in one evening to see a man who was suffering from an agonizing pain over his heart. He was pulseless, speechless, and apparently dying. In order to afford some relief he hurriedly gave him a hypodermic injection, as he thought, of morphine, but to his horror he found that by mistake he had given apomorphine. He consoled himself with the thought that, in any case, the

man could have lived for only a very short time. To his intense astonishment, in a few minutes the pain stopped, the pulse returned, and the man was able to lie down in comfort.—I am, etc.,

ALEXANDER FRANCIS, M.B.

London, Dec. 26, 1924.

Reprinted from *The British Medical Journal*, January 3, 1925.

PHYSICAL EXAMINATIONS

In an article by Dr. M. L. Harris, Chairman of the Medical Council of the A. M. A., published in the *A. M. A. Bulletin* for January, 1925, this significant paragraph appears, and its lesson should be taken to heart by every physician:

"Some one whom the physician has known a long time comes and says, 'Doctor, I would like to be examined.' He has become imbued with the periodic health examination and wants one made on him. The doctor says, 'Oh, you are all right, you don't need an examination. There is nothing the matter with you.' The man is dissatisfied. He feels he isn't getting anything. He wants something and the doctor isn't giving it to him. . . ."

NEUTRAL ACRIFLAVINE IN SURGERY

In the *International Journal of Medicine and Surgery*, for September, 1924, Dr. George C. Fisk, of Buffalo, reports a series of 464 surgical cases treated in one of the larger industrial clinics of his city, in which neutral acriflavine was the only antiseptic used. These included a large percentage of fresh wounds; a number of infected wounds; several cases of boils; and 4 amputations.

His method was as follows:

The wound was cleansed and freed of foreign particles; all dead skin removed; and bleeding controlled so far as possible. The part was then dressed with sterile gauze, dripping wet with a 1 to 100 solution of neutral acriflavine, laid on or packed into the wound, according to the case, and a bandage applied. The primary dressing was changed after two days, and a second dressing of the same kind was done, this latter being left on for one week.

No infections developed in fresh wounds, and the infected wounds cleaned up promptly.

X-RAY DIAGNOSIS OF PREGNANCY

An interesting abstract of a paper on this subject, read before the Chicago Medical Society, February 18, 1925, by Drs. W. A. Newman Dorland and M. H. Hubeny is printed in the February 28 number of the *Bulletin of the Chicago Medical Society*.

These authors state that it is now possible to get satisfactory pictures of the bony structures of the fetus at an age of 3½ to 4½ months with a 4-second exposure and a spark gap of 4 to 6 inches, by using a Potter-Bucky diaphragm and superspeed films.

The importance to all obstetricians of having an accurate picture showing the size and position of the fetus and its rela-

tion to the pelvic bony structures of the mother can hardly be overestimated, nor can the relations of this procedure in diagnosis be overlooked.

That such a short exposure to x-rays can cause damage to the structures of the mother or child seems almost impossible, but these rays are extremely potent and, until thousands of observations of results have been made and recorded, we can not safely declare that the procedure is wholly without danger.

ROENTGENOTHERAPY IN TONSILLITIS

Dr. W. D. Witherbee, of New York, in an article in the *Jour. of Ophth., Otol. & Laryng.*, for November, 1924 (reprinted in the *Radiological Review* for January and February, 1925), arrives at the following conclusions regarding the use of x-rays in tonsillitis:

Roentgenotherapy, given previous to operation, materially lessens the amount of dissection necessary for the removal of tonsils, thereby decreasing the possibility of complications.

Roentgenotherapy is recommended in the following cases:

1. Where an anesthetic or operation is contraindicated.
2. Those cases past middle life where hemorrhage may cause complications due to a mild or severe arteriosclerosis.
3. Patients whose tonsils are embedded in infected tissue, in which the operation may cause dissemination of septic emboli into the blood and lymph streams, thus producing lung abscess, septicemia, endocarditis, etc.
4. Patients whose adjacent lymphatic structures (not removable by operation) are markedly infected.
5. Patients suffering from chronic cardiac lesions, Bright's disease, diabetes, exophthalmic goiter, chorea, rheumatism, hemophilia, asthma, tuberculosis, status lymphaticus or any condition which has lowered the patient's resistance.
6. Patients subject to frequent attacks of peritonsillar abscess (quinsy).
7. Vocalists and public speakers subject to frequent attacks of tonsillitis and pharyngitis.
8. Patients suffering from recurrent attacks of pharyngitis after removal of tonsils and adenoids.

Some of the unfavorable results obtained by this method may be accounted for by the fact that the ray was directed through angle and ramus of the jaw instead of through the soft tissues behind the jaw.

ACTION OF NEOSALVARSAN IN MALARIA

On December 2, 1924, Goresco and Papesco stated before the Society of Pharmacy, of Paris (*Journ. de Pharm. et de Chimie*, Paris, December 16, 1924, p. 469), that neosalvarsan has no effect in killing the malarial plasmodium, but merely drives it out into the blood from organs where it has

remained hidden, so that it may be recognized for diagnosis in cases which would otherwise be found negative, and so that quinine, which is the sole malarial specific, may act upon them.

LABORATORY STUDIES ON METAPHEN

In the latter part of an article by Drs. G. W. Raiziss and I. Tulchinsky, of Philadelphia, in *The Urologic and Cutaneous Review*, for October, 1924, there is a very interesting report of experiments with a new organic mercurial compound known as metaphen.

This substance seemed to be eleven times as powerful a bactericide as bichloride of mercury, inhibiting the growth of staphylococcus aureus in dilutions as high as 1-20,400,000, and killing it in 4 days in a strength of 1-3,850,000.

Metaphen has a low precipitating effect on proteins (a property of the greatest importance) and a very low toxicity when injected intramuscularly. It also possesses considerable spirocheticidal power.

Doses of 10 Cc. of a 1-percent solution have been given to rabbits, by mouth, without any ill effects; and solutions of the same strength, dropped into the eyes of rabbits, were well tolerated, demonstrating its lack of irritant properties in therapeutic dilutions.

This drug has been used, clinically, with good effect in surgery, as well as in gonorrheal urethritis and in infections of the eye, ear, nose and throat.

THE CURE OF GONORRHEA

Dr. John F. Hogan, of Baltimore, contributes an interesting study of the duration of gonorrheal infections to the January 17, 1925, number of the *J. A. M. A.*

Dr. Hogan is convinced that these cases remain infectious much longer than has been supposed, and that the only safe criterion of a cure consists in *repeated cultures*, on testicular agar, from the urethra and prostate of the patient.

He sees no reason why the cultural method of determining infectivity in gonorrhea should not be applied to all cases of this disease, as it is in cases of diphtheria and typhoid.

This method should aid greatly in determining whether a man who has had gonorrhea is in a fit condition to marry.

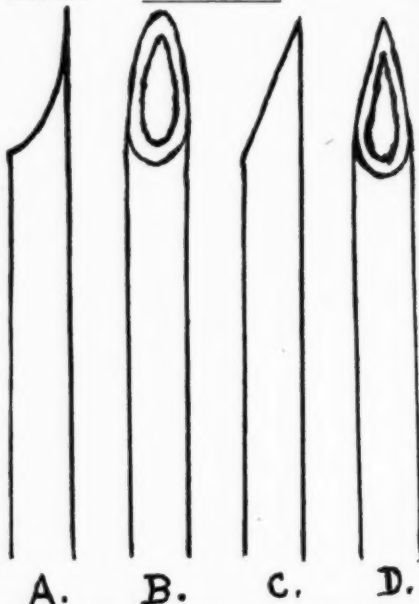
INTRAVENOUS THERAPY

In the issue of the *Medical Journal and Record*, for January 7, 1925, Dr. W. F. Dutton presents an interesting discussion of the *raison d'être* of intravenous therapy, with an outline of the history of this method of treatment and a long list of drugs so used and of physicians of prominence who have so used them.

Dr. Dutton states that he has given over three hundred thousand intravenous injections, using 140 different drugs in 130 different diseases since 1903, and that in this

experience he has not had one death due, directly or indirectly, to the intravenous medication.

He states it as his belief, based on experimental and clinical experience, that this procedure will eventually revolutionize medicine.



INTRAVENOUS NEEDLES

Dr. Wm. A. Steel, of Philadelphia, in the January 7, 1925, number of the *Med Jour. and Record*, calls attention to the fact that hypodermic needles, especially in the larger sizes, as they come from the manufacturer, are ground with a hollow bevel and a chisel point, as shown in Figs. A and B.

With such a needle, it is very difficult to enter a vein smoothly and painlessly, and the highest success with intravenous therapy will not be attained until the physician sharpens his own needles, on a hard oil hone, to a straight bevel and an acute point as shown in Figs. C and D.

FOOD COMBINATIONS IN THE DIET

They say that dyspepsia is our national disease, and it is certain that various disorders of the gastrointestinal tract (mostly preventable by proper eating) make up a large percentage of the work of the average physician.

Dr. N. Philip Norman, of New York, has published an excellent paper on the subject of diet in the December, 1924, number of the *Jour. of the Med. Soc. of N. J.*, and it would pay every reader of this note to send for a reprint of this article and study it.

Very briefly, the main thesis is that different kinds of food not only require different lengths of time for their digestion but the relative quantities of the various

constituents of the digestive juices differ in the handling of different foods.

As a result of these differences, the best results are obtained when a balanced *daily ration* is ingested without eating a single balanced meal.

Dr. Norman suggests that breakfast should consist solely of fruit and milk; luncheon of concentrated carbohydrates, cooked, nonstarchy vegetables, butter and milk; and dinner of meat or other concentrated protein, cooked, nonstarchy vegetables, a raw vegetable and fruit for dessert.

The doctor has given much thought and study to this matter and backs up his ideas with many scientific references and suggestions.

THE FAMILY DOCTOR DEFENDED

In an editorial in the January number of the *Medical World* entitled "How to Choose Your Specialists," the editor very justly and adequately replies to an article by our literary friend, Dr. Woods Hutchinson in the October 4th number of the *Saturday Evening Post*, in which that interesting, if not always wise and accurate, writer suggested that the general practitioner was not so much, and when a man was sick he would be wise to pick out a specialist of some sort.

The point is well made that if the sick man, without medical training, is able to decide which specialist to see, the doctor ought to be able to find out all about him.

The general practitioner who is familiar with the everyday illnesses (and these form the bulk of all the sickness in the world) can frequently get a better idea of what is wrong than the specialist, who often has a tendency to look for rare and complicated conditions in his field, and not at the patient as a whole.

This little article is a sane and refreshing defense of the family doctor, with illustrative cases.

BONE MARROW AND SPLEEN IN ANEMIA

In the December, 1924, number of the *Amer. Jour. of the Med. Sci.*, Dr. C. D. Leake and Dr. J. S. Evans, of the University of Wisconsin, present a complete and well-considered report on the use of desiccated red bone marrow and splenic substance in the treatment of anemia.

As the result of extensive laboratory work and the clinical study of 65 cases of anemia they observed that 47 of the cases treated by this method were more or less markedly improved, while 18 showed slight or no improvement. Among these latter were 2 cases of pernicious anemia.

These observers are of the opinion that 5-grain doses of equal parts of dried spleen and bone-marrow, in capsules, given with appropriate care and study will prove to be very helpful in the treatment of grave secondary anemias—superior to iron or arsenic; but in primary pernicious anemia, the effect is transient and may be harmful.

It is believed that this question is worthy of further detailed study, by the application

of such treatment to advanced cases of secondary anemia, as well as to milder conditions, and a thorough and careful reporting of results.

EARLY GENERALIZATION OF SYPHILIS

In the January number of *Progress in Chemotherapy and the Treatment of Syphilis*, the editor, Dr. G. W. Raiziss, calls attention to the fact that, of 10 rabbits which were inoculated in the scrotum with *Treponema pallidum*, and the area of inoculation completely amputated after 48 hours, all developed syphilis.

J. Moore found that, of 352 patients with primary and secondary syphilis, 26.4 per cent were neurosyphilitic.

These figures emphasize the early generalization of this protean disease and indicate the necessity for early and intensive treatment.

POSTOPERATIVE COMPLICATIONS

The opening paragraph of Dr. George W. Crile's article on the above subject, in the January, 1925, number of the *Annals of Surgery* is so full of food for thought that it is here quoted. If these suggestions are carefully studied and acted upon, a tremendous amount of good will be accomplished.

"In direct relation to the degree to which the principle of anociation is applied in abdominal operations does the incidence of postoperative complications diminish—that is, when the operation is performed not on the lesion alone, but on the entire patient; when the abdominal wall is entirely relaxed; when the incision is ample; when the dissection is feather-edged; when the brain of the surgeon, rather than his muscle, is utilized; when the inhalation anesthetic is kept at the lightest possible degree; when hemostasis is meticulously assured; when the patient has been protected by a pre-operative respiratory and circulatory survey with the correction of every possible respiratory and circulatory defect, under these conditions postoperative complications are rare."

MILK-PROTEIN INJECTIONS IN SYPHILIS

In an article on "The Effects of Nonspecific Protein Therapy in Syphilis," in *The Archives of Dermatology and Syphilology*, for November, 1924, Drs. S. S. Greenbaum and C. S. Wright, of Philadelphia, remark:

"Nonspecific therapy has been successfully applied in many fields of medicine, and the list of diseases which are favorably influenced by this type of treatment constantly increases. It has proved of value in the treatment of acute infections, such as typhoid fever, anthrax, diphtheria, erysipelas, pneumonia, scarlet fever, smallpox, typhus fever and septicemia; in arthritis; in gonorrhea and its complications; in various dermatologic conditions including psoriasis, exfoliative dermatitis, furuncul-

osis, eczema, etc.; in diseases of the eye, such as uveitis, panophthalmitis, iritis, pneumococcal corneal ulcers and keratitis; and in such miscellaneous conditions as angioneurotic edema, secondary anemia and disorders of the blood, such as purpura. In recent years attention has been called to the beneficial effects following protein therapy in general paralysis and tabes, and Kryle, in 1917, reported favorably on the effect of combined protein and the usual antisyphilitic medication in reducing persistently positive Wassermann reactions to negatives."

These investigators did not use the milk-protein in any primary cases, lest the time so lost might jeopardize the possibility of an abortive cure, but, on the basis of 35 cases of secondary and tertiary lues, they make the following comments:

"While this series of cases is not large, it suffices to show that nonspecific protein therapy favorably influences the course of syphilis. In what manner it exerts this favorable influence or what value it has in the treatment of syphilis, we are, at present, not prepared to say.

"We desire to emphasize that it is not our purpose to intimate that injections of foreign protein are in any way a cure for syphilis. Our experience, however, would indicate that there is a definite influence on the course of the disease following their use, and this influence, in chronic syphilis at least, appears to be a favorable one. If the effect of the injections is to stimulate the natural protective forces of the body, the use of nonspecific protein therapy as an adjunct to specific therapy may be of decided value."

BISMUTH IN THE TREATMENT OF EPILEPSY

In the *Brit. Med. Jour.*, for November 15, 1925 (p. 899), Dr. J. G. McNaughton, of Tanganyika, East Africa, reports 5 cases of epilepsy treated with bismuth sodium potassium tartrate. Four of these cases were insane.

The drug was given intramuscularly, in 3-grain doses, repeated every 4 days to one week. Ten injections were given.

The giving of this bismuth salt followed the finding, in many of these cases which came to autopsy, of a pachymeningitis with adhesions, suggesting a syphilitic factor.

The results reported by Dr. McNaughton are so favorable as to warrant a more extended trial of this remedy.

TREATMENT OF TETANUS

The December, 1924, issue of the *Amer. Jour. of Med. Sci.* contains an excellent article by Drs. Carroll Smith and W. E. Leighton, of the St. Louis School of Medicine, on the treatment of tetanus.

These authors review the literature thoroughly and contribute a new and valuable suggestion in recommending the use of solutions of chemically pure magnesium sulphate by the subcutaneous, intramuscular, intravenous or intraspinal route.

The solution used for all but the intravenous method is of 25-percent strength; in the veins a 6-percent solution is employed. From 2 to 16 Cc. of the solution are used.

The subcutaneous method is the safest and slowest; the intravenous is the quickest and most dangerous.

Their suggestions for the handling of a case of tetanus are as follows:

1. Prophylactic antitoxin, subcutaneously in all suspicious wounds, repeated again after ten days, especially if suppuration is present, or if an operation is to be performed.

2. Antitetanic serum should be given during an attack of tetanus. Intravenous administration may be satisfactory. Intraspinal serum should be employed in severe cases or where improvement is not satisfactory.

3. Spasms should be controlled by the subcutaneous injection of magnesium sulphate. In urgent symptoms or where the subcutaneous method fails, intraspinal or even the intravenous route should be employed. Morphine sulphate, in addition to magnesium sulphate, may aid at times. Careful personal observation is necessary in order to judge the dosage and method of administration of magnesium sulphate.

4. The wound of infection should be opened and cleaned, and air should be allowed to reach it. Tincture of iodine should be used locally. Serum should be injected at the site of the wound to block the progress of the toxin.

5. An intramuscular or subcutaneous injection of serum should be given on the eighth or ninth day after the beginning of the treatment, in order to keep up the prophylaxis.

6. Fluids and nourishment should be supplied, and careful nursing is essential.

CHLORINE INHALATIONS

In the *Archives of Otolaryngology*, for January, 1925, Marjorie B. Patterson, of New York, presents a bacteriological study of the work done by Drs. M. F. Jones and Chas. Garofalo in treating disease of the upper respiratory tract by means of inhalations of chlorine gas, and concludes:

- "1. Sterilization of the respiratory mucous membrane by inhalation of chlorine in a concentration of 0.015 to 0.020 mg. per liter of air for an hour or two is not to be expected.

- "2. The concentrations of chlorine used do exert an effect, however, and often this may be in the direction of microbe reduction, of possible assistance to the body defenses in combating superficial infection.

- "3. Although chlorine inhalation is not without possibility of injury, its extensive application to acute superficial respiratory inflammations, under suitable scientific control, appears justified in the light of the laboratory studies. The ultimate decision as to its value must be based on extensive clinical trial."

CESAREAN SECTION UNDER LOCAL ANESTHESIA

In a thoughtful and well-written article in *Surg., Gynecol., and Obst.*, for February, 1925, Dr. Joseph B. DeLee, of Chicago, makes a plea for the wider use of infiltration anesthesia in cesarean operations and describes the technic of this method in some detail.

In summing up, he says:

"1. Local anesthesia is not only possible but should be the method of choice for all cesareans, including the cervical.

"2. The dangers of acidosis and pneumonia are avoided.

"3. The postoperative recovery is smoother and quicker than that following general anesthesia.

"4. We are permitted through this added safety to extend the indications for abdominal delivery in borderline cases.

"5. In heart, respiratory, kidney and liver cases, it is particularly valuable, indeed almost indispensable.

"6. If the surgeon will devote a little time to perfecting the technic, he will be able to apply it in an increasing number of conditions with increasing benefit to his patients and satisfaction to himself."

INTRAVENOUS THERAPY

"My father and I have given four thousand injections during our daily practice. With the weight of this experience behind us, we may say that intravenous therapy is unquestionably safe. . . . Whenever improvement has been noted, it has come about so much more rapidly and to such a greater degree than if *per ore* medication had been used that I may state unhesitatingly that the intravenous route is the best for every drug which is suitable for such administration. . . . There is only one precaution which must be observed if intravenous therapy is to be entirely successful, and that is to use a preparation which is entirely reliable. Every solution intended for intravenous use should be so carefully prepared that it is in reality certified."—W. S. SWANN, M.D., *Jour. Intrav. Therapy*, February, 1925.

PROTEIN THERAPY

In the issue of the *Gazette des Hôpitaux*, Paris, for March 10 and 12, 1925, Dr. Andre Jouravleff, of Moscow, presents an interesting study of protein therapy.

He considers that the following conditions are absolute indications for this form of treatment: (1) chronic rheumatic arthritis; (2) erysipelas; (3) hemorrhages, especially of the stomach and intestine.

Relative indications are: (1) Many inflammations of the female sex organs; (2) septic processes; (3) chronic otitis media; (4) various forms of sore throat; (5) eczema; (6) burns; (7) anemia and weakness.

Contraindications are listed as: (1) tuberculosis which is not of fibrous char-

acter; (2) aplastic anemia; (3) acute nephritis; (4) nephrolithiasis; (5) acute enfeeblement of the heart action; (6) pronounced arteriosclerosis; (7) edema, of various origin; (8) diabetes; (9) neoplasms; (10) cachexia; (11) pregnancy (where it may produce abortion); (12) infancy.

The doctor calls particular attention to the use of protein therapy in the treatment of burns, and states that the injection of milk in such cases hastens healing, reduces cicatrization, lowers the temperature and ameliorates the general symptoms.

COLLOIDAL COPPER IN CANCER

In the *Brit. Med. Jour.*, for December 27, 1924, there is an abstract of a paper by Dr. E. E. Brierley, in which he reports 8 cases of inoperable or recurrent carcinoma (4, of the breast, 1 of the uterus and 3 of the rectum), of which 6 made, what appear to be, complete recoveries (one is alive and well 10 years later) following intramuscular injections of colloidal copper.

No technic is given, but the point is emphasized that the treatments must be continued until the symptoms disappear or the patient refuses further treatment.

SULPHARSPHENAMINE IN THE TREATMENT OF CHOREA

Drs. R. D. Moffet and C. H. Smith, in *Archives of Pediatrics* (41: 657, 1924), state that the use of arsenic in the treatment of chorea dates back to 1826, and for the last fifty years solution of potassium arsenate has been almost universally used for this condition.

The method used by the authors is to place the child in bed for twenty-four hours. The next day they give an intramuscular injection into the buttocks of 10 mg. of sulpharsphenamine for each kilogram of body weight. This dose is repeated at intervals of five days for three doses. Nine patients have been so treated and, of these, five showed definite clinical improvement.—Abs. in *A. J. Dis. Child.*, January, 1925.

VINEGAR MILK

The use of acidified milk in infant feeding is attracting much attention. Lactic acid, hydrochloric acid, etc., are recommended for this purpose.

In the *Amer. J. Dis. Child.*, for February, 1925, Dr. Berman S. Dunham, of Toledo, suggests that these acids are sometimes expensive and difficult to obtain, and that the same results can be attained by using ordinary vinegar, which can be purchased cheaply at every corner grocery.

Dr. Dunham adds one ounce of vinegar to 15 ounces of cow's milk to make a pint of vinegar-milk, and feels that it is well to add one ounce of a dilution of corn syrup with equal parts of water to each pint. He gives this mixture undiluted to children over 2 months old and has had good results.

New Books

CLENDENING: THERAPEUTICS

MODERN METHODS OF TREATMENT. By Logan Clendening, M.D. Illustrated. St. Louis: The C. V. Mosby Company. 1924. Price \$9.00.

When it comes down to brass tacks, there is one purpose, and one only, in all the multitude of things which the modern physician studies and does, and that is to *heal the sick*.

Diagnosis is absolutely necessary—we must know what is wrong with our patient; laboratory technic is a part of diagnosis; surgery is required in many cases. In the last analysis, however, the larger number of our patients are medical cases, and, after all our urine reports and blood counts and x-ray pictures and basal metabolism tests, if we don't know what to do for him and how to do it, we are falling down on the job.

Dr. Clendening has found (as we all have, more or less) that, so far as therapeutics is concerned, most of the available textbooks are poorly balanced; try to cover too much ground or too little; are lacking in detail; out of date; or written in such a dry and heavy style that they act upon the reader as a soporific.

In this volume, he has tried to remember that, while drugs are necessary, there are other methods of treatment; that he is dealing with the therapeutics of internal medicine, and not with surgery, dermatology, pharmacology and the history of medicine; that, in order to be helpful, a book must describe a procedure so carefully and minutely that a man who had never heard of it could do it from the description; and that he is writing of the treatment of disease as it is *now*, and not as it was in the last generation.

With these ideas in mind, the author has considered the treatment of disease by means of drugs, biologicals, diet, glandular extracts, physiotherapy, psychotherapy, climate and other methods used in curing the sick, and has done it all in such a bright and entertaining manner (using illustrations to clarify the text) that reading the book is a real pleasure.

It seems as though any medical library that lacks this volume is not so complete as it should be.

LEGAL MEDICINE AND TOXICOLOGY

LEGAL MEDICINE AND TOXICOLOGY. By many specialists. Edited by Frederick Peterson, M.D., Walter S. Haines, M.D., and Ralph W. Webster, M.D. Second Edition. Illustrated. Philadelphia: W. B. Saunders Company. 1923. Cloth \$20.00.

This, the second, edition of this monumental work has been fully revised, so far as possible by the original authors of the

various articles. The general plan and arrangement of the book have not been changed.

Several entirely new articles have been added, such as: "Poisonous Mushrooms," by Dr. Wm. W. Ford; "Industrial Poisoning," by Dr. Alice Hamilton; "Legal Rights and Obligations of Physicians," by Dr. Harold N. Moyer; and several others.

Such a textbook as this is indispensable to all who are connected in any way with forensic medicine and to laboratory workers; but it would also make a useful addition to any medical library, as it contains much valuable material not readily available elsewhere.

BELL: CHILDREN

FEEDING, DIET AND THE GENERAL CARE OF CHILDREN. A BOOK FOR MOTHERS AND TRAINED NURSES. By Albert J. Bell, A.B., M.D. Second Revised Edition. Illustrated. Philadelphia: F. A. Davis Company. 1924. Price \$2.00.

This little volume is an excellent handbook for the young mother or the nurse. It is clearly and simply written and free from useless discussion and technical phrases.

The use of bold-face subject headings throughout the book, together with a good index, make reference easy.

Simple directions for the care of children suffering from various diseases are not intended to take the place of professional advice, but to enable the mother to give the doctor intelligent cooperation.

BESANT: MAN AND HIS BODIES

MAN AND HIS BODIES. By Annie Besant. Chicago: The Theosophical Press. 826 Oakdale Ave. 1923.

This book is a simple and readable exposition of some of the elementary principles of metaphysical science.

Those who are sufficiently interested in the subject to follow the reviews of such books which will appear from time to time will do well to note that the authority upon which certain, to some, unusual statements are made is that these facts are arrived at by the use of certain faculties of observation which have been cultivated by the observers, as are the special faculties of the bacteriologist or the astronomer, and can, like these latter, be developed by anyone who is willing to spend the necessary time and effort.

The argument of the present volume is that man is not, primarily, an animal but is, in reality, a spiritual entity, who *possesses* a physical body, for the purpose of permitting him to become manifest in and establish contact with the physical universe.

The discussion takes up the further proposition that the man has not merely one

body (the physical) but that he is actually using *three* bodies at the present time. In addition to the physical body, by means of which he performs actions, he has an emotional body, by which he experiences sensations, desires and emotions, and a mental body, by means of which he thinks.

These bodies, it is stated, are all composed of *matter* of varying degrees of fineness, which can be *seen* by those who have cultivated the necessary faculties for such perception.

Upon these statements this volume is devoted to a consideration of the structure, development and functions of these various bodies and their relation to each other, to the man himself, and to other beings who inhabit the universe, including God.

It will prove very interesting to those who have a taste for metaphysics.

COTTON: DISLOCATIONS AND JOINT-FRACTURES

DISLOCATIONS AND JOINT-FRACTURES. By *Frederic J. Cotton, M.D.* Second Edition, *Reset.* Illustrated. Philadelphia and London: W. B. Saunders Company. 1924. Cloth \$10.00.

Dr. Cotton's book is largely a personal document, having been written almost wholly from his own experiences and those of his immediate friends and colleagues, and the necessity for a second edition speaks for its popularity.

The new edition has been entirely done over, in text and type, and embodies Dr. Cotton's personal experiences in various military hospitals during the war.

Illustrations are very numerous and pertinent, and are closely associated with the text.

The book is readable, practical and can not fail to be a help to all general practitioners, as well as to orthopedic specialists.

MALLORY-WRIGHT: PATHOLOGICAL TECHNIQUE

PATHOLOGICAL TECHNIQUE. A PRACTICAL MANUAL FOR WORKERS IN PATHOLOGICAL HISTOLOGY AND BACTERIOLOGY. By *Frank B. Mallory, M.D., and James B. Wright, M.D.* Eighth edition, revised and enlarged. Illustrated. Philadelphia: W. B. Saunders Company. 1924. Cloth \$6.50 net.

The eighth edition of this valuable textbook has been carefully revised, some of the chapters being entirely rewritten.

While it is intended primarily as a text and reference book for laboratory workers, any physician who has occasion to perform autopsies will find it immensely helpful.

HOLMES: LAZINESS

CONTROLLED POWER. A STUDY OF LAZINESS AND ACHIEVEMENT. By *Arthur Holmes, A.M., Ph.D.* (*Mind and Health Series.*) Boston: Little, Brown & Co. 1924. Price \$1.75.

If we purpose to be good doctors, we must first be adequate human beings; and, before we can be good human beings, we must

know how a human being operates—from the inside out. Here is a book which will help toward that knowledge.

Dr. Holmes is a professor of psychology and he has recognized the important part which work plays in the conservation of health, and, hence, the fact that what we usually think of as laziness is either misunderstood physiology or it is pathology, of one kind or another.

Nervous ills beset the idle, the semi-idle or those who work in a spirit of rebellion; we should, therefore, first learn and then teach the joy and the glory of work.

We must distinguish, says Dr. Holmes, between idleness, which may arise from various physical and mental causes, such as infancy, illness, etc., and true indolence, which is the result of undeveloped or perverted mental processes or of unfortunate habits.

Those who are trying to do the wrong kind of work—square pegs in round holes—are frequently accused of laziness. Watch them when they are doing something they *like* to do!

Adolescents need most of their energies for growing and for adjusting themselves to a host of new ideas and sensations, and are frequently called lazy because they do not perform with alacrity the tasks set for them by unsympathetic adults. Watch them at play. If they play well, have no fear for their future.

When we have to deal with true laziness, remember that the one and only thing which moves a man to action is an *idea*. Forget the thought of whipping up the *will* and devote yourself to the task of painting the *idea of work* in such alluring colors that the lazy man can no longer be restrained from rushing into it. Holmes tells how to do this.

Every physician needs this book to help him understand human nature. After he has bought it he should circulate it among his patients who have children, to make better parents of them.

NORRIS AND LANDIS: DISEASES OF THE CHEST

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS. By *George William Norris, A.B., M.D., and Henry R. M. Landis, A.B., M.D.* With a Chapter on the *Electrocardiograph in Heart Disease* by *Edward B. Krumbhaar, Ph.D., M.D.* Third Edition Revised. Philadelphia and London: W. B. Saunders Company. 1924. Price \$9.50.

The authors set out to write a practical book on the physical diagnosis of the heart and lungs in health and disease, and appear to have accomplished their purpose very well.

All nonessentials have been omitted and points of secondary importance condensed, so that the main features of diagnosis are emphasized.

The book is well gotten up, profusely illustrated and thoroughly indexed.

A very recent and authoritative textbook on this important subject.

GEHRING: THE VARIANT (Help for Nervous Wrecks)

THE HOPE OF THE VARIANT. By John George Gehring, M.D., Sc.D., LL.D. New York and London: Charles Scribner's Sons. 1924. Price \$2.00.

The man who, today, suffers from diphtheria, pneumonia, typhoid, or any readily classifiable organic disease or injury is, in many respects, the easiest type of patient to treat. It is the man (or, often, the woman) who comes to us with concrete or indefinite complaints, and who is obviously so ill as to be partially or wholly incapacitated from carrying on his normal (or, sometimes, any) pursuits, but in whom the most careful examination fails to reveal any serious organic changes, who taxes our patience and our professional resources to the uttermost.

For thirty years, in the little village of Bethel, Maine, Dr. Gehring has devoted his entire time and energy to studying the underlying factors which cause such people to be different in their reactions from their normal brethren—to be "variants"—and in this volume he sets forth the results of his studies in a clear, usable and fascinating manner.

One of his paragraphs might almost serve as the keynote for the whole work.

"... There is a continuous interaction between mind and body, and any attempt at self-interpretation will fail that does not take this fundamental law constantly into account. Stress has been laid upon the physical self—since that is what a human being is before he is anything else—but that, on top of this physical, there is engrafted a consciousness; and, whereas either may suffer alone for a time, eventually both must become involved. Further, that the consciousness has attached to it a spiritual factor, the soul side, and that unless this, too, is reckoned with, no human being is living a complete life, enjoying a perfect equipoise, or coming into the fullness of the possibilities of his existence."

There are few books, published for general circulation, which the physician can read with the keen interest furnished by a novel and, at the same time, be gaining practical information for daily use in the consulting-room. This is one of them.

MEDICAL CLINICS OF NORTH AMERICA

These volumes require no elaborate introduction to the medical profession, as their value is questioned by no one.

The present (November, 1924) number consists of the work of the prominent clinicians of Philadelphia, who present a number of rare and interesting cases, and a gratifying amount of material which is of use and value to general practitioners.

Among the latter class are the clinics of Dr. David Riesman, on the diagnosis and treatment of pneumonia; Dr. B. B. Vincent Lyon, on nonsurgical drainage of the biliary tract; Dr. R. S. Boles, on intestinal toxemia and colonic irrigations; and Dr. G. P. Meyer, on asthma.

Works of this character are invaluable aids to the men who are ambitious to keep in touch with the new ideas and modern practice of the teachers and leaders in our great medical centers.

The Medical Clinics of North America is issued serially, one number every other month. Published by W. B. Saunders Company, Philadelphia. Per Clinic year (July 1924 to May 1925), Paper \$12.00; Cloth \$16.00.

SUTTON: AN AFRICAN HOLIDAY

AN AFRICAN HOLIDAY. By Richard L. Sutton, M.D., LL.D. Illustrated. St. Louis: The C. V. Mosby Company. 1924. Price \$2.25.

A physician, with a bent for exploration and adventure took a holiday in Africa, and has set forth his colorful and exciting experiences in a well gotten up and illustrated volume of convenient size, which will offer a busy doctor delightful respite from his daily cares, when he has a spare moment, and will make an excellent addition to the reading table in his waiting room.

CABOT: DIFFERENTIAL DIAGNOSIS

DIFFERENTIAL DIAGNOSIS. VOLUME II. PRESENTED THROUGH AN ANALYSIS OF 317 CASES. By Richard C. Cabot, M.D. Third Edition Revised and Profusely Illustrated. Philadelphia and London: W. B. Saunders Company. 1924. Price \$9.00.

In this volume the study of differential diagnosis is presented by the clinical method and actual cases are described and discussed and the outcome stated.

The cases are classified by their prominent symptom, as: vertigo; dyspepsia; pallor, etc. There is also an index.

Photographs and charts are used to illustrate the text where needed.

A valuable substitute for actual clinical instruction.

HERRMANN: METHODS IN MEDICINE

METHODS IN MEDICINE. THE MANUAL OF THE MEDICAL SERVICE OF GEORGE DOCK, M.D., Sc.D. By George R. Herrmann, M.D., Ph.D. Illustrated. St. Louis: The C. V. Mosby Company. 1924. Price \$6.50.

This volume is a presentation of the system of organization of a great medical service. The Manual is divided into five parts:

Part I is made up of administrative methods, rules and detailed regulations to insure prompt, careful, complete and uniform handling of each case. These methods include a system of the duties of the resident staff from the resident physician down to the clinical clerks; notes and suggestions for history-taking, physical examination and laboratory work, with the routine requirements for each type of case and the details of the ordinary clinical laboratory procedures.

Part II consists of the special methods of clinical and laboratory investigation applied in a more complete study.

Part III outlines acceptable therapeutic methods with emergency measures and subsequent treatment and management.

Part IV contains approved dietetic methods with practical diet lists.

Part V illustrates recording and graphic methods in the form of a composite history with representative charts of the data from the usual type of cases.

DRAPER: HUMAN CONSTITUTION

HUMAN CONSTITUTION. A CONSIDERATION OF ITS RELATIONSHIP TO DISEASE. By George Draper, M.D. Illustrated. Philadelphia and London: W. B. Saunders Company. 1924. Price \$7.50 net.

It can readily be understood that a prime necessity for practicing the science and art of healing human beings is an extensive and detailed knowledge of the construction and peculiarities of the organism upon which we are to work.

The present volume deals exhaustively and in a somewhat technical manner with the human body, as considered by the anthropologist and morphologist, and considers the relation between certain general bodily types and certain kinds of disease.

For the student who has some time to devote to the bypaths of medical science, this book will possess great interest.

POSNER: LOCAL ANESTHESIA

LOCAL ANESTHESIA SIMPLIFIED. By John Jacob Posner, D.D.S. Illustrated. St. Louis: The C. V. Mosby Company. 1924. Price \$3.50.

This is a textbook for dentists. The author has eliminated all theoretical discussion—in fact, everything except technic. He has decided, by experiment and experience, what is the best way to produce dental anesthesia, and this way he gives in full detail.

Illustrations are freely used to clarify the text.

JACK: "HANDBOOK OF MEDICINE"

Wheeler's Handbook of Medicine. By William R. Jack, B.Sc., M.D., F.R.F.P.S.G. Seventh Edition. New York: William Wood & Co., 1924. Price \$4.00.

Every busy physician needs manuals of the various fields of medical science and art to which he can refer readily, for points of vital information during the work of a busy day, as well as the larger textbooks which should be studied during less crowded hours, in order that he may have a broad and sound knowledge of his profession.

The fact that Jack's Handbook is now in its seventh edition testifies to its popularity and worth, and this new edition has been brought as nearly up-to-date as it is possible for a medical book to be, by revision

and rearrangement of its contents and by some additions.

Physicians in need of a manual of medicine, medical students and nurses will find that this volume fulfills its purpose excellently.

REYNOLDS-MACOMBER: STERILITY

FERTILITY AND STERILITY IN HUMAN MARRIAGES. By Edward Reynolds, M.D., and Donald Macomber, M.D. With a section on the Determining Causes of Male Sterility, by Edward L. Young, Jr., M.D. Illustrated. Philadelphia and London: W. B. Saunders Company. 1924. Cloth, \$5.00 net.

Physicians are frequently consulted by married couples who, though earnestly desiring children, seem unable to produce them.

A good deal has been said upon this subject in various books, but is should prove of considerable value to be able to find all the factors which enter into the condition of sterility, in the male and female, considered under one cover.

Vaquez-Laidlaw: HEART

DISEASES OF THE HEART. By Henry Vaquez; Translated and edited by George F. Laidlaw, M.D. Illustrated. Philadelphia and London: W. B. Saunders Company. 1924. Cloth \$8.50 net.

This book, by a prominent European specialist, is intended, primarily, for the man who is devoting himself to the study and practice of cardiology, and to such it should prove of considerable value, as the anatomy, physiology and pathology of the heart are considered at great length.

To the average general practitioner, who wants facts, briefly stated, and suggestions succinctly outlined, it will prove of little service.

NEUHOF: THE HEART

THE HEART. ITS PHYSIOLOGY, PATHOLOGY AND CLINICAL ASPECTS. By Selian Neuhoof, M.D. Illustrated. New York: P. Blakiston's Son & Co. 1923. Cloth \$10.00.

It presents the entire subjects of cardiac and cardiovascular disturbances and diseases in a clear, well-balanced manner from the clinician's viewpoint, and is a practical, comprehensive reference book for all interested in the subject.

ROSE: "EAT YOUR WAY TO HEALTH"

Eat Your Way to Health; a Scientific System of Weight Control. By Robert Hugh Rose, A.B., M.D. New Edition, Revised and Enlarged. New York: Funk & Wagnalls. 1924. Price \$2.00.

PARK & WILLIAMS: "MICROORGANISMS"

Pathogenic Microorganisms; a Practical Manual for Students, Physicians and Health Officers. By William Hallock, M.D., Anna

Wessel Williams, M.D., and Charles Krumwiede, M.D. Eighth Edition, Enlarged and Revised. Illustrated. Philadelphia: Lea & Febiger. 1924. Price \$6.50.

PHILADELPHIA: COLLEGE OF PHYSICIANS

Transaction of the College of Physicians of Philadelphia. Third Series, vol. 45. Philadelphia. 1923.

PEARL: "MEDICAL BIOMETRY"

Introduction to Medical Biometry and Statistics. By Raymond Pearl, Professor of Biometry and Vital Statistics in The Johns Hopkins University. Illustrated. Philadelphia: W. B. Saunders. 1923. Price \$5.00.

WILSON: "HOW OUR BODIES ARE MADE"

How Our Bodies Are Made. By R. M. Wilson, M.B., Ch.B. Illustrated. London: Henry Froude and Hodder & Stoughton. 1923. Price \$1.50.

FOXWORTHY: "LIFE INSURANCE EXAMINATION"

Life Insurance Examination. Edited by Frank W. Foxworthy, Ph.B., M.D. Illustrated. St. Louis: Mosby Company. 1924. Price \$9.00.

NURSING EDUCATION

Nursing and Nursing Education in the United States. Report of the Committee for the Study of Nursing Education. By C. E. A. Winslow, Dr., P.H., Chairman; Report of a Survey by Josephine Goldmark. New York: Macmillan. 1923. Price \$2.00.

U. S. NAVY: REPORT OF SURGEON GENERAL

Annual Report of the Surgeon General, U. S. Navy, for the Fiscal Year 1924. Washington: Government Printing Office.

MARLOW: "THE EYES"

Relative Position of Rest of the Eyes and the Prolonged Occlusion Test. By F. W. Marlow, M.D., M.R.C.S. Eng., F.A.C.S. Illustrated. Philadelphia: F. A. Davis Company. 1924. Price \$2.50.

GOYENA: "GASTROPATÍAS DE ORIGEN RENAL"

Gastropatías de Origen Renal; Estudio Clínico y Patogénico. Por el Dr. Juan Raúl Goyena. Buenos Aires: "La Semana Medica," Imp. de Obras de E. Spinella. 1924.

VETERINARY EDUCATION REPORTS

Veterinary Education and Research; 9th and 10th Reports of the Department of

Agriculture, Union of South Africa. Pretoria: Government Printing Office. 1924. Price 10s.

MARTIN: "ARTIFICIAL LIMBS"

Artificial Limbs; Appliances for the Disabled. By Dr. Florence Martin, Director of the Technical and Scientific Institute of Artificial Limb Fitting, Brussels. Illustrated. Geneva: International Labor Office. 1924. Price \$1.20.

NOGUCHI: "YELLOW FEVER"

Experimental Studies of Yellow Fever in Northern Brazil. By Hideyo Noguchi, M.D., and others. Monographs of the Rockefeller Institute for Medical Research, No. 20, August 9, 1924. New York: Rockefeller Institute for Medical Research.

GANGULI: "DYSPEPSIA"

Dyspepsia and Its Self-treatment. By Jadu Nath Ganguli, B.A., M.B. Benares: Biswanath Printing Works. 1924.

DAUKES: "BARRIER CHARTS"

Barrier Charts for Health Officers; A Synopsis of Preventive Measures Against Communicable Diseases in Four Tables. By S. H. Daukes, O.B.E., M.B., D.P.H., Wellcome Bureau of Statistical Research. London. Balliere, Tindall & Cox.

SMITH: "THE HEART"

How Is Your Heart? Intimate Talks on the Prevention of Heart Disease and on the Care of an Already Damaged Heart. By S. Calvin Smith, M.S., M.D. New York: Boni and Liveright. 1924. Price \$1.75.

WILLMAN: ERRORS OF MIND HEALING

ERRORS OF MIND HEALING: COMPARED WITH THE MIRACLES OF CHRIST AND HIS DISCIPLES IN THE HEALING OF THE AFFLICTED AS VIEWED BY A PHYSICIAN. By Reinhold Willman, M.D. St. Joseph, Mo.: Advocate Publishing Co. 1919.

LEWIS: ELECTROCARDIOGRAPHY

CLINICAL ELECTROCARDIOGRAPHY. By Sir Thomas Lewis, M.D., F.R.S., D.Sc., F.R.C.P., C.B.E. Illustrated. Third Edition. London: Shaw & Sons Ltd. 1924. Price 8s. 6d. net.

BIGGER: BACTERIOLOGY

HANDBOOK OF BACTERIOLOGY FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By Joseph W. Bigger, M.D., F.R.C.P.I., D.P.H. Illustrated. William Wood & Co. 1925. Price \$5.00.

Medical News

INDEX WANTED

If any reader has an index to **CLINICAL MEDICINE** for 1921 which he is not using, we would be very glad if he would send it to the editorial office of this journal, 4757 Ravenswood Avenue, Chicago.



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DR. IRVING SAMUEL CUTTER

Dr. I. S. Cutter, for nearly ten years dean of the Medical College of the University of Nebraska, was recently appointed dean of the Medical School of Northwestern University. He will assume his position July 1st of this year.

EDUCATORS TO MEET

The World Federation of Education Associations will meet in Edinburgh, Scotland, during July, 1925.

If interested, address W. J. Stoddart, 47 Moray Place, Edinburgh, for all particulars.

CIVIL SERVICE EXAMINATIONS

Applications for the positions of Junior, Assistant and Associate Medical Officer,

Medical Officer and Senior Medical Officer will be received up to June 30, 1925. Salaries range from \$1,860 to \$5,200.

Applications for appointment as Graduate Nurse will be received up to June 30, 1925. Salaries, \$1,680 to \$1,800.

Applications for appointment as Physiotherapy Assistant will close June 13, 1925. Salary, \$1,500.

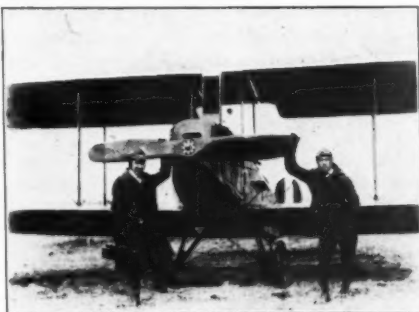
For full information address The United States Civil Service Commission, Washington, D. C.

VENEREAL DISEASE CONTROL

With the passage of the Gilbert Bill, in the last days of the 68th Congress, the District of Columbia now has a law requiring the reporting of venereal diseases. All of the states have had some law of this sort since 1921.

In 43 states, the Health Officer may quarantine venereal cases, and in 9 placarding is permitted.

Twenty-nine states prohibit the advertising of remedies for venereal diseases in the lay press, and in 19 the employment of venereal patients as food-handlers, barbers, etc., is not permitted.



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AN UP-TO-DATE PHYSICIAN

Dr. Herman J. Neubauer (left), with pilot, has purchased a plane and makes calls in rural districts from his office in Hinckley, Ill. Since the use of this plane, he finds that he can shave down, to a great extent, by his early arrival, cases which might end in death.

OPENING FOR PHYSICIAN

Due to the sudden death of Dr. B. W. Severance, of Phoenix, N. Y., there is immediate need of a physician at that place.

The family desires to sell the house, office and all instruments and supplies. Interested persons may write to Mrs. Philena W. Severance, at the above address.



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DR. ELIZA M. MOSHER

Dr. Eliza M. Mosher, of Brooklyn, N. Y., who at 78 is the oldest living and active woman doctor, was honored with a dinner at the Hotel Roosevelt, N. Y., on March 25, to celebrate her 50 years' service in the medical world.

She claims she is just beginning in her work to help mankind and always likes to think that she has mothered hundreds of babies, and taught hygiene to thousands, who have benefited from her medical and personal advice.

ANOTHER OPENING

Dr. Franklin E. L. Hester, National Bank Building, Glenwood, Ia., is so seriously ill that he will not be able to resume his practice and desires to turn it over to a competent man. If interested, write to him or to Mrs. Hester for particulars.

LECTURE MATERIAL AVAILABLE

Any physician who desires to give a lecture dealing with the conservation of vision can procure material and lantern slides to illustrate it by addressing the Eye Sight Conservation Council of America, Broadway and 42nd St., New York, N. Y.

SUMMER CAMP FOR BOYS

Camp Roosevelt, a training camp and summer high school for boys 12 years old

and over, will open June 29, 1925, at Ft. Sheridan, Ill. The rates are moderate.

For full information, address Maj. F. L. Beals, 460 South State St., Chicago, Ill.

INTERESTING FIGURES

The *Daily Commercial News*, of San Francisco, published some interesting figures, showing the number of arrests during the 10 years from 1913 to 1923 for alcoholism, all causes except alcoholism and total arrests, in 300 cities in the United States, having a total population of 33,571,611, or 31¼ percent of our entire population.

In 1916, the Country was wet, with saloons; in 1918, it was wet, with war-time regulations; in 1920, it was dry.

Years	Increases in Arrests			Increase in Population
	Intoxication	Other Causes	Total Arrests	
1923 over 1920	111%	31%	43%	5%
1923 over 1918	11%	42%	34%	7%
1923 over 1916	(- 14%)	57%	33%	9%



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BEAUTY PARLOR FOR INSANE

Here is a photograph of the newly opened beauty parlor in the woman's quarters in the state hospital for insane at Kankakee, Ill. President W. A. Stoker, believing that any effort to improve the appearance of the feminine inmates would likely have its effect upon the morose and depressed, opened the first beauty parlor in an insane asylum in the United States. The shop is complete in every detail; all work is free to women inmates, and several cures have been reported, partly due to the psychological effect.

Send for This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE will gladly forward requests for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

- | | |
|---|---|
| Q-408 Alucol. 8-page booklet. The Wander Co. | Q-422 The Electron, April, McIntosh Electrical Corp. |
| Q-409 Fleischer Spinal Manometer. 10-page folder. Becton, Dickinson Co. | Q-423 Fibrolysin. Merck & Co. |
| Q-410 Infra-Red Therapy. 48-page booklet. Burdick Cabinet Co. | Q-424 Purpose of Tooth Paste—Bulletin Fourteen. 8-page booklet. The Pepsodent Co. |
| Q-411 Exophthalmic Goiter. California Endocrine Foundation Labs. | Q-425 Typical Growth Chart. Postum Cereal Co., Inc. |
| Q-412 The Treatment of Sexual Insufficiency, Iwan Bloch, M. D., Berlin. 12-page booklet. Cavendish Chemical Corp. | Q-426 Why Constipation? When Pancreobilin is Available. 16-page booklet. Reed & Carnrick. |
| Q-413 Preliminary Report on the use of Diallylbarbituric Acid and Ethyl Morphine in Obstetrics, by Lyle G. McNeile, M.D. 8-page booklet. Ciba Company, Inc. | Q-427 Medina, The City of Peaceful Repose. 8-page booklet. Schering & Glatz. |
| Q-414 Habit Time. 24-page booklet. Deshell Laboratories. | Q-428 V-E-M. Schoonmaker Laboratories, Inc. |
| Q-415 Progressive Medicine, April, 16-page booklet. Drug Products Co. | Q-429 Hexylresorcinol, S. & D. 12-page booklet. Sharp & Dohme. |
| Q-416 The Use of Dryco in Infant Feeding and for the Acutely Ill & Convalescent. How to Use Protolac in Infant Diarrheas. 16-page booklet. The Dry Milk Co. | Q-430 Victor High Frequency Electrodes and Accessories. 22-page booklet. Victor X-Ray Corp. |
| Q-417 Microscopes and other Biological Apparatus. Catalog B 1923. 173-page booklet. Eimer & Amend. | Q-431 Intestinal Pathology. 8-page booklet. Nujol Laboratories. |
| Q-418 Fischer's Magazine, April, 32-page booklet. H. G. Fischer & Co. | Q-432 Health, Growth and Happiness for Boys and Girls. 24-page booklet. Ralston Purina Co. |
| Q-419 Ten Scientific Reasons for Using Pluto Water. French Lick Springs Hotel Co. | Q-433 Home Treatment of Tuberculosis. 32-page reprint of articles by Dr. Beverly Robinson and others. Charles Killgore. |
| Q-420 The Menopause by Henry R. Harrower, M. D. 18-page booklet. The Harrower Laboratory. | Q-434 Safe Sedation. 12-page booklet. John B. Daniel. |
| Q-421 Food—Iron. Chart. Kellogg Company. | Q-435 A Sanitarium Vacation. 24-page booklet. The Ralph Sanitarium. |
| | Q-436 Mead's file index of Corrective Diets for Infants. Mead Johnson & Co. |
| | Q-437 Glyco-Thymoline. Kress & Owen Company. |

- Q-223 Adrenalin in Medicine. 24-page booklet. Parke, Davis & Co.
- Q- 63 Arsenauro and Mercauro. 100-page booklet. Parmele Pharmacal Co.
- Q-176 Pepsodent and Oral Hygiene, Bulletin 10. 8-page booklet. The Pepsodent Co.
- Q-243 Useful Information for the Nurse. 24-page booklet. Chas. H. Phillips Chemical Co.
- Q-386 Pellitol. 4-page folder. Pitman-Moore Co.
- Q-295 Taurocol Tablets. 4-page folder. Paul Plessner Co.
- Q-242 The Endermic Treatment of Febrile Conditions. 24-page booklet. Pneumo-Phthysine Chemical Co.
- Q-296 The Vitamin-B Potency of Certain Grain Products by M. S. Fine, Ph.D. 8-page booklet. Postum Cereal Co.
- Q-146 Sterilizers. 8-page booklet. Prometheus Electric Corp. 1
- Q- 41 Specific Urethritis. 16-page booklet. Riedel & Co., Inc.
- Q-238 Ethical Medicinal Specialties. 8-page booklet. A. H. Robins Co.
- Q-240 Endocrine Therapy. 16-page booklet. Wm. H. Rorer.
- Q- 54 Urotropin, for use in general, special and surgical practice. Schering & Glatz.
- Q-231 Instant Relief for Cold in the Head and Sore Throat, Hay Fever and Summer Colds. 4-page folder. Schoonmaker Laboratories.
- Q-392 H.M.P. Uplift Supporter. 16-page booklet. Schuemann-Jones Co.
- Q-180 Ethical Specialties. 8-page folder. Sharp & Dohme.
- Q-217 A Modern Reconstructive Tonic. 4-page folder. Carroll Dunham Smith Pharmacal Co.
- Q-236 The Glycerophosphates. 8-page folder. Smith, Kline & French Co.
- Q-230 The New Scientific Method of Overcoming Constipation with Laxatives. 16-page booklet. Nujol Laboratories.
- Q- 84 Storm Binder and Abdominal Supporter. 4-page folder. Dr. Katherine L. Storm.
- Q-390 The Builder — Vitamexol. 6-page folder. R. J. Strassenburgh Co.
- Q-228 For the Treatment of Syphilis. 15-page booklet. Swan-Myers Co.
- Q-103 Therapeutic Use of Chlorine in the Treatment of Respiratory Infections. No. 61. 8-page folder. Wallace & Tiernan.
- Q-235 Constipation. Its Rational and Physiological Treatment. 4-page folder. Wm. R. Warner & Co.
- Q- 30 Helping the Cell to Help Itself. 32-page booklet. The Alkalol Co.
- Q-369 Doctor—This is for you. 4-page folder. Andron Hygienic Co., Inc.
- Q- 20 Surgical Operations, for the Podiatrist. Dr. R. B. Waite. Antidolor Mfg. Co.
- Q-316 The Bacillus Acidophilus. 16-page booklet. Arlington Chemical Co.
- Q-239 The Treatment of Sexual Impotence. 16-page booklet. Astor Chemical Co.
- Q-393 The Betzco Line. 1925 catalogue. Frank S. Betz Co.
- Q-271 Pharmaceutical Preparations of Established Merit. 11-page booklet. E. Bilhuber, Inc.
- Q-264 Phosphorized Cod Liver Oil. 4-page folder. Borchardt Malt Extract Co.
- Q-237 Information for the Medical Profession about Bovinine. 36-page booklet. The Bovinine Co.
- Q-319 Seventh Edition 1924 Catalog. 239-page booklet. Geo. A. Breon & Co.